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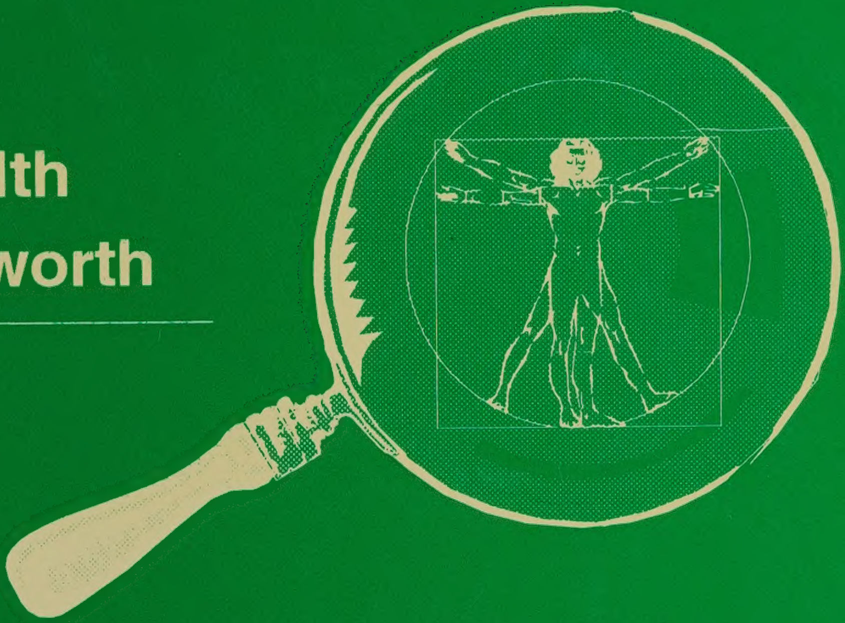
Fact Book on Health in Hamilton-Wentworth

Third Edition



Prepared by the

Health Priorities Analysis Unit
Faculty of Health Sciences
McMaster University

On Behalf Of

The Educational Centre for Aging and Health
Faculty of Health Sciences
McMaster University

The Department of Public Health Services
of the Regional Municipality of Hamilton-Wentworth

and The Hamilton-Wentworth District Health Council

by
Lenore L. Dickson
Jo Ann D. Heale
Larry W. Chambers

First Printing: April 1994

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1994 Edition

Fact Book on Health in Hamilton-Wentworth

The *Fact Book on Health in Hamilton-Wentworth* is a comprehensive compendium of health indicators for the Regional Municipality of Hamilton-Wentworth. This up-to-date information will be invaluable to educators, students, health and social service agency planners and others interested in having a cross-sectional view of the community.

Much of the data in the book were not easily accessible before its publication. For example, data derived from the 1991 Census and the 1990 Ontario Health Survey are presented for the first time in the Fact Book.

The book brings together in one place health facts derived from numerous agency reports, studies and surveys conducted in the community over the past few years. Over 80 documents and individuals were consulted to produce the book.

> "The Fact Book is a key document for education and social action."
>
> A.S. Macpherson MD, MSc, FRCPC
> Director, Educational Centre
> for Aging and Health

Key Features:

- provides numerous graphs and tables for Hamilton-Wentworth
- includes health status information from mortality, hospital morbidity and special surveys
- includes information on the determinants of health:
  - — *living and working*
  - — *individual behaviours*
  - — *social support*
  - — *genetic make-up*
- describes health care services in Hamilton-Wentworth
- all information presented refers to the source document and/or the contact person who could provide more information and/or interpretation of the data
- this book is an excellent reference guide as a starting place to learn about preliminary information on a health topic and where to locate further information on the topic.

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1. Introduction

1.1. Preface

This is the third edition of the Fact Book and it has evolved significantly since the first edition was published in 1987. We have strived to improve the Fact Book by including suggestions from health and social services providers, planners and students throughout Hamilton-Wentworth and beyond. Drawing on the feedback from users, we have made a number of modifications to this edition:

1) the 1994 edition of the Fact Book is organized using a determinants of health framework as described by the Premier's Council on Health, Well-being, and Social Justice (1993);

2) data from various sources was reanalyzed, providing comprehensive data on as many age groups as possible,

3) wherever possible, data was compiled into charts and where appropriate, tables were reformatted for improved data presentation and clarity;

4) a standardized presentation format was adopted for all sections of the document;

5) to provide additional information on issues addressed by the Sustainable Development Task Force for the Regional Municipality of Hamilton-Wentworth, Task Force fact sheets and Infowatches (Reynolds et al, 1992) were included in a section for supplemental material.

The Ontario Ministry of Health recently introduced its Mandatory Programs and Guidelines for Public Health which require public health units to produce a community health status information report at least every five years (Ontario Ministry of Health, 1989). This third edition of the Fact Book addresses this requirement for Hamilton-Wentworth. The Ministry Guidelines also require an environmental assessment report, which is in production by the Hamilton-Wentworth Regional Planning Department and scheduled for publication in 1994.

The Fact Book has been produced by the Health Priorities Analysis Unit (HPAU) of the Faculty of Health Sciences, McMaster University. The Unit is funded by the Educational Centre for Aging and Health. In addition, collaboration with the Hamilton-Wentworth District Health Council, the Hamilton-Wentworth Department of Public Health Services, and the Social Planning and Research Council (SPRC) of Hamilton and District was vital for the collection and dissemination of the data contained within the Fact Book. We would also direct the reader to a recently released SPRC document titled "Tracking Community Trends in Hamilton-Wentworth" (G. DeSantis) which could be an excellent companion document to the Fact Book.

1.2. Health Priorities Analysis Unit - Who We Are

The goal of the Health Priorities Analysis Unit (HPAU) is to encourage and facilitate access to community health data. The Unit also promotes the use of such data for the development of education and research related to priority health issues within the community, with a particular emphasis on aging.

Operational definitions from the 1990 Ontario Health Survey (OHS) indicators (eg. household income, source of income, main occupation/activity) have been documented in Exhibit 1.1., (page 10).

Much thought has gone into issues around the reporting of OHS data. The OHS provides a wealth of information on health and health behaviours. The sampling frame for this survey was designed to be representative of data at the district health council level, which in the case of Hamilton-Wentworth, is identical to the Regional Municipality of Hamilton-Wentworth. In reporting data from the OHS, the community's information needs were balanced with the necessity to report only that data which provide reliable estimates for the population. Refer to Exhibit 1.2 (page 12) for a description of our reporting procedure.

1.6. How to Use the Fact Book

1.6.1. Interpretation of the Data

The Fact Book provides a great deal of information about the health of Hamilton-Wentworth residents. We realize that health data should be collected and compiled specifically to address policy or researchable questions, rather than compiled as a solitary data bank. Thus, in order to help prevent you, the reader, from falling into the data bank trap, we strongly recommend that you ask yourself the following questions when consulting the Fact Book.

a) Is the selected indicator a relevant measure?

For example, the use of mortality data as an indicator of the burden of arthritis and musculoskeletal problems does not answer questions about the magnitude of the associated pain and disability. Even when mortality data are relevant it may give an incomplete picture. For example, a tobacco control program should include not only lung cancer and cardiovascular mortality but should also report other indicators such as the number of smokers, in order to understand the size of the problem in the population.

b) Are the results straightforward to interpret and apply?

In planning, implementing and evaluating programs at the local level, the actual number of residents in the population is often the most valuable statistic, rather than percentages or rates. When proportions or rates are used, they will require adjustment to account for differences in age, sex or income when comparing neighbourhoods or for comparisons of Hamilton-Wentworth with other jurisdictions. These techniques are outlined in standard epidemiologic textbooks and are outside the scope of this discussion. However, in the mortality and morbidity sections (Sections 4.1 (page 115) and 4.2 (page 137)), standardized mortality and morbidity ratios are presented to compare Hamilton-Wentworth with the Province of Ontario (data from other sources). At the end of these sections the statistical methods used by the Ministry of Health are presented.

c) Are the measurement methods accurate?

Measurement of health must be accurate. Cause of death is often inaccurate and many components of morbidity other than hospitalizations require specially designed surveys. Caution should be exercised when surrogate measures such as utilization of health services or supply of services are used as indicators of population ill-health since all residents may not have access to the services. However, the use of related multiple measures increases our confidence in the findings. For example, if two health surveys of the same population are available and the results are similar, we are more confident that the results represent the truth.

As presented by Chambers et al (1983), each data source has its own advantages and disadvantages. These are listed here for morbidity/mortality data, utilization/rates under treatment, social indicators, surveys of agency/client populations, and general population surveys.

1.6.2. Advantages and Disadvantages of Data Types

a) Morbidity/Mortality (e.g. hospital discharges by diagnosis, disease-specific mortality)

Advantages:

1. Readily available and inexpensive to access;
2. Easily communicated to health professionals;
3. Trends in measures often straightforward;
4. Usually amenable to mathematical index (rate) construction;
5. Allows comparison of local area with other jurisdictions;
6. Data for several years avoids basing planning on data of an aberrant year;
7. Can be used to monitor effects of intervention.

Disadvantages:

1. Residence classification unreliable (e.g. location of death may not be placed where individual lived most of life);
2. Problems of repeatability in assigning codes (e.g. ICD-9 diagnostic codes);
3. Lack of continuity in trends and changes in coding rules resulting from revisions of the ICD-9;
4. Variations in medical terminology;
5. Differences in thoroughness in completing medical cause of death certification and morbid events in hospitals and communities;
6. Difficulties in establishing the correct cause of death and diagnoses;
7. May be outdated;
8. Often incidence not prevalence or vice versa, e.g. psychiatric admissions;
9. Overlapping jurisdictions.

b) Utilization/Rates Under Treatment (e.g. therapeutic abortions)

Advantages:

1. Availability and low cost;
2. Usually reliable if financial incentive to complete forms or to report performance;
3. Can be used to compare utilization across facilities, regions and time;
4. Can be used to monitor effects of intervention(s).

Disadvantages:

1. May be inaccessible or poorly reported (under-reporting is common);
2. Coding may vary from centre to centre, making comparison difficult;
3. May "overestimate" illness (pseudo-morbidity);
4. May be outdated;
5. May be inaccurate because of overlapping jurisdictions for reporting;
6. May be under-reporting of stigmatizing disorder (e.g. sexually transmitted diseases);
7. Records individual occurrences versus individuals.

c) Social Indicators (e.g. income levels of families, workers' compensation)

Advantages:

1. Readily available and inexpensive to access;
2. Can be used to monitor effects of intervention.

Disadvantages:

1. May be grossly outdated, as most data are collected at 5 or 10 year intervals (the Census) (1951, 1961, 1971, 1981, 1986, 1991);
2. "Hard" measures like age, sex, or date of birth are often accurate. "Soft" or frequently inaccurate and complex measures include income, education, and employment;
3. Often only incidence (new characteristics/problems of persons over a period of time) data are available and not prevalence (total number of persons with characteristics/problems at a given point of time) or prevalence not incidence;
4. Relationships between health and social indicators often tenuous;
5. Comparisons across jurisdictions often impossible because of overlapping jurisdictions or lack of comparable data between jurisdictions.

d) Surveys of Agency/Clinic Populations (e.g. survey of clients)

Advantages:

1. Comprehensive method of obtaining health and health care information from a group who have used services at least once;
2. Can offer insights on how to improve service: to make them more accessible and appealing.

Disadvantages:

1. Fear of losing needed service can result in lack of criticism by respondents;
2. May not be representative of group of people in community in need of same services but can easily be improved by using proper sampling procedures;
3. Volunteers for the survey may be atypical of the user group;
4. Direct contact may be more expensive than settling for rates under treatment approach.

f) Population Survey (e.g. 1990 Ontario Health Survey)

Advantages:

1. As long as the response rate is 80% or better, and/or the respondents are representative of the entire community, it is the best method of estimating true community health and health care problems;
2. People themselves (not professionals, politicians, or agencies) provide the health and health care data;
3. Flexible approach - it can be used to assess a wide range of community needs and/or supplement other approaches to gathering new health care information.

Disadvantages:

1. Requires expertise and support staff to execute properly;
2. Relatively expensive;
3. Often the time needed to collect and report the data is too long, leading to an outdated report;
4. Unless questions are relevant and carefully worded and pre-tested (if interviewers used, they should be trained in interviewing techniques), quality of information can be poor.

1.7. Development of Community Health Indicators

This edition of the Fact Book uses our work (for example, the *Infowatches*) and the work of others (Chevalier et al 1992, Gosselin et al 1992) in compiling and developing community health indicators. Four issues arose in the development and compilation of these indicators:

1) We used indicators which present health information clearly, which assists readers to respond to the information.

2) It is recognized that the Fact Book is an evolving document, open to revision and suggestions for change in future editions.

3) Other communities have produced Fact Books or reports on the health of their community. We have tried to be resourceful in building on the strengths and ideas of these reports.

4) Every community has some community health indicators which can be included in their first edition of their Fact Book, for example, the census information. This edition has built on previous work. We are keen to share our experience and learn from others. Thus, we have included a form at the beginning of this document for readers to complete and return to us regarding their views about the Fact Book.

To assess the success this edition of the Fact Book in generating community health indicators for Hamilton-Wentworth, we compared the Fact Book indicators with the recommendations of two groups. Chevalier et al (1992) on behalf of Health Canada identified 40 community health indicators in a document which includes a literature review of the validity and reliability of each indicator. In a recent issue of the Canadian Journal of Public Health, Gosselin et al (1993) suggested 19 indicators to be used by communities to assess whether they are on the road to a "Sustainable Society".

We have listed in Exhibit 1.3 (page 13) the Chevalier et al (1992) and Gosselin et al (1993) indicators. This table also indicates whether or not we have been able to generate the appropriate data for Hamilton-Wentworth for inclusion in this Fact Book. The Fact Book includes all but five of the forty community indicators identified by Chevalier et al. Only four of the nineteen sustainable society indicators identified by Gosselin et al are included. However, in their upcoming "State of the Environment Report", the Hamilton-Wentworth Planning Department will be reporting on the majority of the "environment" indicators suggested by Gosselin et al (1993). In addition, the table lists other indicators that were suggested but were not available at the time the Fact Book was printed.

1.8. Community Health Indicators Related to Aging

At the time of finalizing this edition of the Fact Book, Health Canada (formerly Health and Welfare Canada) was developing a document tentatively titled "Guide to Health and Social Indicators Related to Aging" (Leduc et al, personal communication). Review of a preliminary draft of this document revealed that a substantial number of these indicators overlap with the Chevalier et al list outlined in Exhibit 1.3, and therefore have already been included in this edition of the Fact Book. In addition, in order to address issues relevant to seniors, we have attempted to present data by age group wherever possible.

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Exhibit 1.1 *Operational Definitions* of *1990 Ontario Health Survey Indicators*

Variable	Operational Definition
Household Income	Total household income: Respondents asked to indicate, in given ranges, approximate total household income for the year 1989, before tax deduction. Responses grouped in 4 categories: 1) LI = low income* 2) **Not LI but <$50K** = not low income and household income <$50,000 3) **$50K+** = not low income and household income >$50,000 4) **Don't know** = don't know / not stated * low income: Urban: household income <$12,000, regardless of household size household income <$12,000 and household size of 2+ household income <$30,000 and household size of 4+ Rural: household income <$12,000, regardless of household size household income <$20,000 and household size of 3+ household income <$30,000 and household size of 7+
Source of Income	**Wages & Salaries** = wages and salaries or income from self-employment, or other sources such as dividends and interest on bonds, deposits and savings + Family allowances + Unemployment Insurance + Workers' Compensation + retirement earnings (Old Age Security, Guaranteed Income Suppllement, Canada or Quebec Pension Plan) + Other. This group did not include individuals from households that received Family Benefits. **Family Benefits** = Individuals in households that received Family Benefits, including GAINS-A, GAINS-D, and General Welfare Assistance (Municipal Allowance) + any other source of income. **Other** = Include individuals who received any of the sources of income listed except wages and salaries, income from self-employment, and Family Benefits.
Education	Respondents asked to indicate their highest level of education ever completed: **Primary or less** = "No formal schooling" + "Some primary school" + "Primary school" **Secondary**= "Some secondary or high school" + "Completed secondary or high school" **Post-Seondary**" = "Some community college, technical college, CEGEP, or nursing program" + "Some university (not completed)" + "Completed community college, technical college, CEGEP, or nursing program" + "University degree (completed) Bachelor, Masters, PhD" **Don't Know** = don't know / not stated.

Source: Ontario Ministry of Health, 1990 Ontario Health Survey, 1992.

continued on next page

Exhibit 1.1 *Operational Definitions* of *1990 Ontario Health Survey Indicators* (continued)

Variable	Operational Definition
Main Activity/ Occupation (also see Occupation Type)	Respondents were asked whether their main activity during the last 12 months was working at a job or business, looking for work, going to school, keeping house, retired or something else. Occupations were classified by a 4-digit Standard Occupation Classifiication code: **Professional/Managerial/Technical** = Self-Employed Professional (eg. physicians, lawyers, architects) + Employed Professional (eg. accountants, scientists, teachers) + High-Level Managerial (eg. administrators, managers) + Semi-Professional (systems analysts, nurses, air pilots) + Technical + Middle Managerial. **Skilled Workers** = Supervisors + Foremen and Forewomen + Skilled Clerical-Sales-Service (eg. secretaries, radio & TV announcers, bookkeepers, insurance sales people) + Skilled Crafts and Trades (eg. firefighters, police officers, welders, tool and die making occupations) + Farmers. **Semi- and Unskilled** = Semi-Skilled Clerical-Sales-Service (eg. orderlies, typists, receptionists, hairdressers) + Semi-Skilled Manual (eg. chefs & cooks, timber cutting occupations, bus drivers) + Unskilled Clerical-Sales-Service (eg. office clerks, houskeepers, street vendors) + Unskilled Manual (eg. service station attendants, guards, janitors) + Farm Labourers. **Student** = "Going to school". **Homemaker** = "Keeping house". **Retired.** **Other.** **Not Stated** = main activity or occupation was not known.
Occupation Type	Categorizes Occupation Codes of curent job or last job done in the past 12 months into *Occupational Groups*: **Not working** = Not working in past 12 months. **Managerial** = Managerial, Administrative and Professional (eg. government officials, chemists, teachers, dentists) **Clerical** = Typing, bookkeeping, data processing, and reception (eg. secretaries) **Sales** = Sales of commodities or services (eg. sales clerks, real estate agents) **Service** = Occupations involving protective, personal, accomodation, apparel and food and beverage services (eg. fire fighters, police, funeral directors, child care, chefs) **Processing** = Occupations involving processing of mineral ore, metal, clay, glass, stone, chemicals, plastics, food, beverages, wood, pulp and paper, textiles, etc. (eg. milk processing occupations) **Primary** = Farming, fishing, forestry, and mining (eg. farmers, miners) **Processing** = **Construction** =Construction trades occupations (eg. carpenters, painters) **Transportation** = Air, railway, water, motor and other transportation occupations (eg. air pilot, chauffeurs) **Materials Handling** = Materials handling and other crafts (eg. parcel carriers, printing press operators)

Source: Ontario Ministry of Health, 1990 Ontario Health Survey, 1992.

Exhibit 1.2. Procedure for Reporting 1990 Ontario Health Survey Data In Fact Book

Issue	Strategy Used	Rationale
"Not Stated" responses	Data were not reported if proportion "not stated" is greater than 10% of population.	Data might not be representative of population.
	Percent "not stated" is not included in reporting population percentages.	"Not Stated" responses are missing value which are generally not included in prevalence estimates provided that above criteria is met.
Re-grouping data	Data were re-analyzed if available data did not address specific information needs. eg. age groupings included 12-19 year olds as one group. However to provide data on underage drinking it was necessary to re-analyze the data using only 12-18 yr olds.	Some data which are available and are relevant to health planning would be absent from the Fact Book if the data were not re-analyzed.
Suppressed numbers from OHS tables provided by Ministry of Health	If both the "not stated" and one other response category were suppressed in a table, the data were re-analyzed. The "not stated" were then treated as outlined above. The percentage from the other category was compared with the provincial table for the same population and against estimates from other surveys, if available. If the percentages were similar to expected values, the data was reported.	For information purposes it is important to separate the missing data from the other categorical data in order to present as complete a health picture as possible for all age groups. Numbers were more often suppressed for the 12-19 and the 65+ year age groups. These groups have health care & program needs which are very different from the 20-64 year age group.

Exhibit 1.3. Recommended* Community Health Indicators Considered For Inclusion in the 1994 Fact Book

Indicator	In Fact Book	Refer to exhibit(s)
Chevalier et al (1992) Indicators		
Social Environment		
Population by age and gender	Yes	2.3.1 - 2.3.3, 2.3.12
Population growth rate	Yes	2.3.4 - 2.3.6
Total fertility rate	Yes	2.3.2, 3.5.1 - 3.5.3
Life expectancy at birth	No	Not available locally
Proportion of population born outside Canada	Yes	2.3.7 & 4.1.3
Proportion of allophones (home language other than English or French)	Yes	4.1.3
Live births by age of mother	Yes	3.5.1 & 3.5.2
Proportion of single-parent families with children under 18	Yes	2.3.12
Proportion of population 15 and over with less than 9 years of education	Yes	4.1.1
Proportion of live births to mothers with less than 9 years of education	No	Not available from MOH
Unemployment rate	Yes	4.1.4.2
Proportion of population living below low-income cut-off point	Yes	4.1.2
Proportion of welfare recipients	Yes	4.3.3.1 & 4.3.3.2
Lifestyle, behaviours and risk factors		
Proportion of regular smokers	Yes	4.2.1.2
Proportion of obese persons	Yes	4.2.7.3
Proportion of population consuming more than 14 alcoholic drinks per week	Yes	4.2.2.1
Proportion of population not wearing seat beats	Yes	4.2.4.5
Proportion of live births under 2,500 grams	Yes	3.5.2
Proportion of persons 15 and over living alone	Yes	2.3.12
Proportion of population dissatisfied with their social life	Other	4.3.2.7
Proportion of population having contemplated suicide	Yes	3.4.14 (also 3.4.12, 3.4.13)
Proportion of population showing a high level of psychological stress	Yes	3.4.13 (also 3.4.2)
Health status		
Proportion of population in fair or poor perceived health	Yes	3.3.2
Proportion of population with at least one health problem	Yes	3.3.8 - 3.3.10
Prevalence of leading health problems	Yes	3.3.11
Cause-specific death rate	Yes	3.2.6 (also 3.2.1)
Infant mortality rate	Yes	3.2.6
Perinatal mortality rate	Yes	3.2.6
Suicide mortality rate	Yes	3.2.6
Motor vehicle traffic accident mortality rate	Yes	3.2.6
Life expectancy in good health	No	Not available
Potential years of life lost	Yes	3.2.8, 3.2.2 - 3.2.5
Cause-specific short-term hospital morbidity	Yes	3.2.4 (also 3.2.1)
Incidence of cancer	Yes	3.1.3
Short-term hospital morbidity due to injury	Yes	3.1.4
Incidence of occupational injuries declared and compensated	Yes	4.3.3.6
Incidence of major notifiable diseases	Yes	4.2.8.8, 3.1.6 - 3.1.17
Incidence of notifiable diseases requiring vaccination	Yes	4.2.8.6
Decayed, Missing, Filled Index and its components by education (dental health)	Other	3.6.11
Prevalence of long-term disability	Other	3.3.12 - 3.3.16

continued on next page

Indicator	In Fact Book	Refer to exhibit(s)
Gosselin et al (1993) Indicators		
Environment		Refer to Regional Planning
Greenhouse gases emissions	No	Development Department
Gas emissions leading to ozone layer depletion	No	1994 State of the Environme
Major atmospheric pollutants emissions	No	Report (in press)
Major water pollutants emissions	No	
Total protected areas	Yes	SDTF: Environment
Marine fisheries catches	NA	
Forest: ratio of regeneration success rate over harvest rate	NA	
Energy consumption per capita	No	
Toxic waste production (other than aquatic and atmospheric)	No	
Equity		
Public aid for development and debt	No	
Scholarization and illiteracy rate for children and adults	No	
Distribution of personal income and poverty levels, by age and gender	Yes	4.1.2
Public transport use compared to car	Yes	SDTF: Land Use
Recycling (secondary materials recovery rate)	Yes	SDTF: Environment
Economy		
GNP per capita (adjusted for buying power)	No	Not available locally
Employment-to-population ratio	Yes	4.1.4, SDTF: Economy
Military expenditures in relation to other government expenditures	No	Not available locally
Health		
Obesity (adults) and malnutrition (children) proportions	Yes	4.2.7.3
Caloric intake, and proportions from vegetable and animal sources	Other	4.2.7.2

*Other Indicators***

Child care spaces	No	Unavailable at press time
Children going to school without breakfast	No	Not available locally
Depression index score	No	Not available locally
Chronic sleep problem	No	Not available locally
Recent bereavement	No	Not available locally
Somatic complaints eg. headache	No	Not available locally
Availability of firearms	No	Unavailable at press time

*Recommended by:

Gosselin P, Belanger D, Bibeault JF, Webster A. 1993. Indicators for a Sustainable Society. Canadian Journal of Public Health. May-June.

Chevalier S, Choiniere R, Bernier L, Sauvageau Y, Masson I, Cadieux E. 1992. User's Guide to 40 Community Health Indicators. Health and Welfare Canada.

** Recommended by field experts

Abbreviations

NA = not applicable
SDTF = Sustainable Development Task Force factsheets (See Section 6.2)
MOH = Mininstry of Health

2.1. Profile of Region

2.1.1. Background

The Regional Municipality of Hamilton-Wentworth came into effect on January 1, 1974, established through an Act passed by the Ontario Lesgislature. The Region represents the upper tier of a two tier system of government. The lower tier system of government is comprised of six area municipalities, the Cities of Hamilton and Stoney Creek, the Towns of Ancaster, Dundas and Flamborough, and the Township of Glanbrook.

The two tier system of local government originated as a direct result of suburban sprawl, where smaller rural communities were urbanized, putting a strain on services, transportation and local government cooperation. Small towns and villages were forced to supply full urban services to vast tracts of housing without the financial resources or infrastructure, while the cities were forced to cope with traffic congestion and loss of taxpayers. To help alleviate these problems a new regional level of government was created to take over the various local municipal responsibilities considered a general concern to inhabitants.

2.1.2. Location

Located in the southern part of the Province of Ontario, Hamilton-Wentworth is 68 kilometres west of Metropolitan Toronto and within an 800 kilometre radius of the large American consumer markets such as Boston, Chicago and New York. A market of 100 million people is within a day's drive and can be accessed by a transborder interconnecting highway system. The availability of a deep water port and cargo facilities at Hamilton Airport makes the area an attractive distribution centre.

The Region's two cities, three towns and one township cover a land area of 280,764 acres, with a population in excess of 450,000.

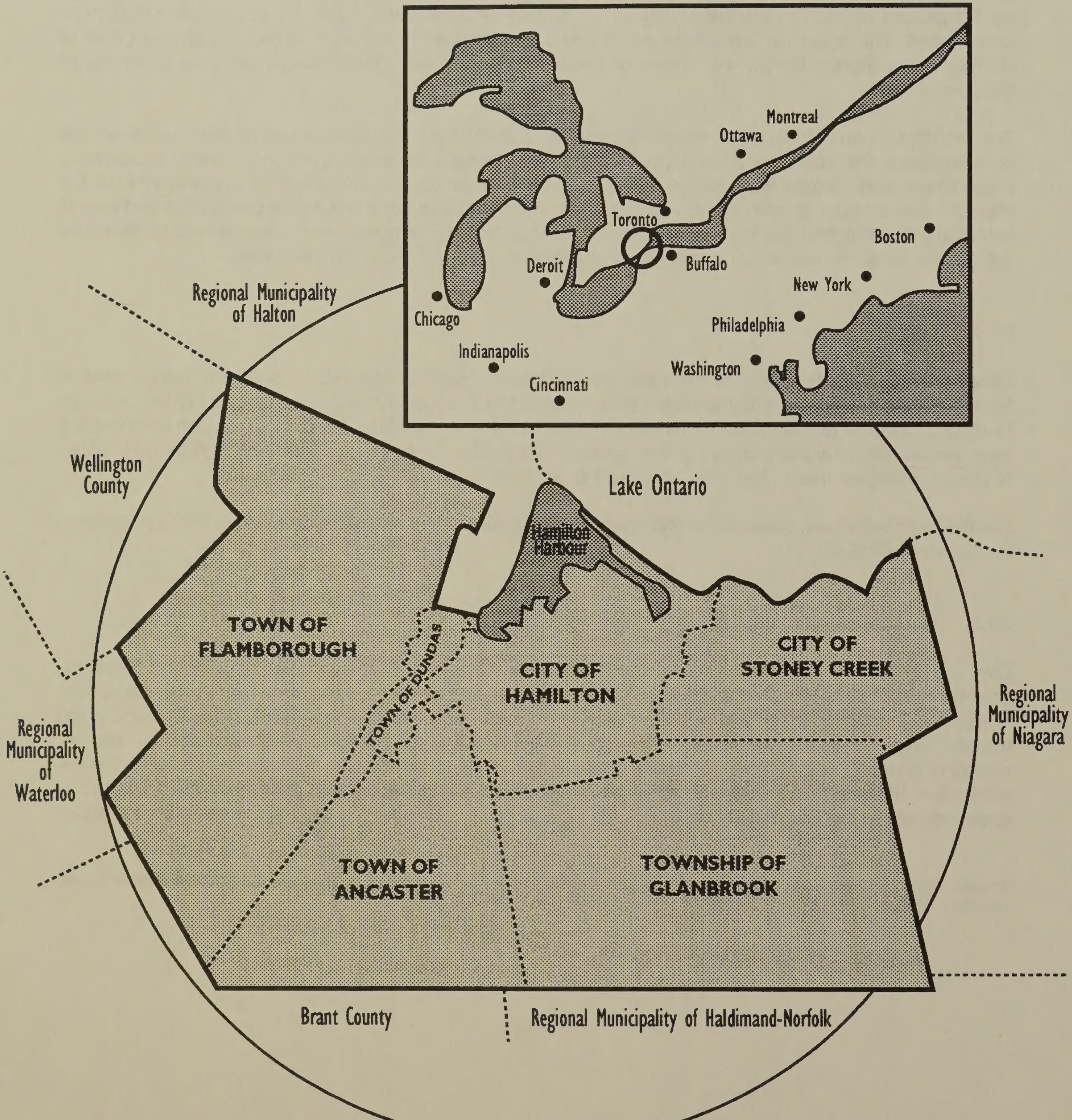
2.1.3. Urban Characteristics

Over one quarter of the land found in Hamilton-Wentworth is occupied by homes, industrial enterprises, commercial strips, apartment buildings, recreational parks and other urban land uses. Local business activity consists mainly of industrial and manufacturing enterprises, with the steel firms Stelco and Dofasco being the two largest industrial employers. Other goods and services produced in the Region include textiles, electrical products, detergents, footwear, communication systems, food processing, rail cars, and metal fabrication. In addition to industrial enterprises, the health care, education and financial services sectors have grown rapidly in the last decade, and now are an important component in the Region's workforce profile.

Source: Regional Municipality of Hamilton-Wentworth, Department of Planning and Development, 1992 Annual Financial Report, Hamilton, 1993.

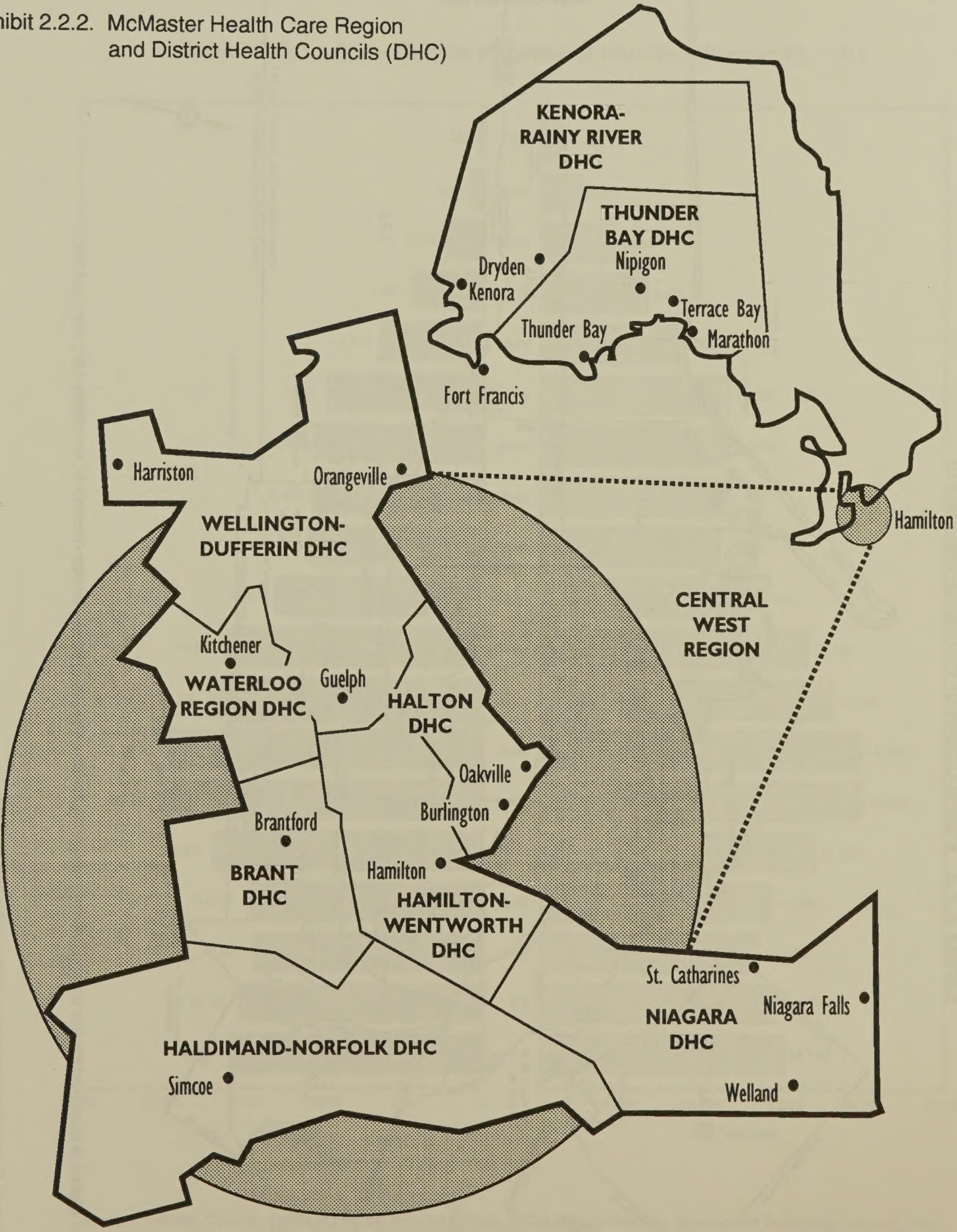
2.2. Geography of Hamilton-Wentworth

Exhibit 2.2.1. Regional Municipality of Hamilton-Wentworth


Montreal
Ottawa
Toronto
Boston
Buffalo
Deroit
New York
Chicago
Philadelphia
Indianapolis
Washington
Cincinnati
Regional Municipality of Halton
Wellington County
Lake Ontario
Hamilton Harbour
TOWN OF FLAMBOROUGH
TOWN OF DUNDAS
CITY OF HAMILTON
CITY OF STONEY CREEK
Regional Municipality of Niagara
Regional Municipality of Waterloo
TOWN OF ANCASTER
TOWNSHIP OF GLANBROOK
Brant County
Regional Municipality of Haldimand-Norfolk

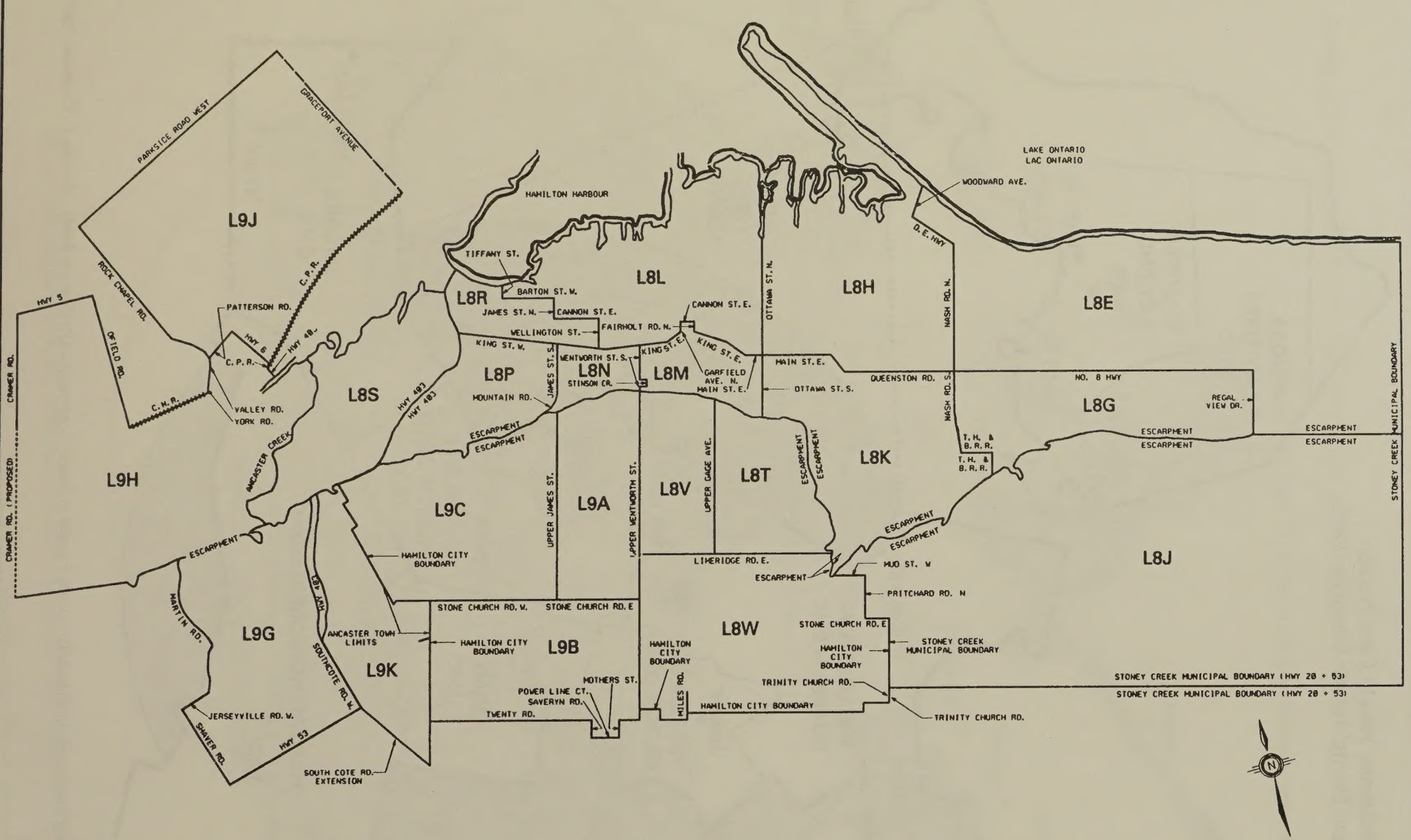
Source: The Regional Municipality of Hamilton-Wentworth. 1992 Annual Financial Report.

Exhibit 2.2.2. McMaster Health Care Region and District Health Councils (DHC)


KENORA-RAINY RIVER DHC
THUNDER BAY DHC
Dryden
Kenora
Nipigon
Terrace Bay
Thunder Bay
Marathon
Fort Francis
Hamilton
Harriston
Orangeville
WELLINGTON-DUFFERIN DHC
CENTRAL WEST REGION
Kitchener
WATERLOO REGION DHC
Guelph
HALTON DHC
Oakville
Burlington
Brantford
BRANT DHC
Hamilton
HAMILTON-WENTWORTH DHC
St. Catharines
Niagara Falls
NIAGARA DHC
HALDIMAND-NORFOLK DHC
Simcoe
Welland

Source: Learning Resources, McMaster University Faculty of Health Sciences,Health Science Briefs. Volume 1: Overview, 1987.

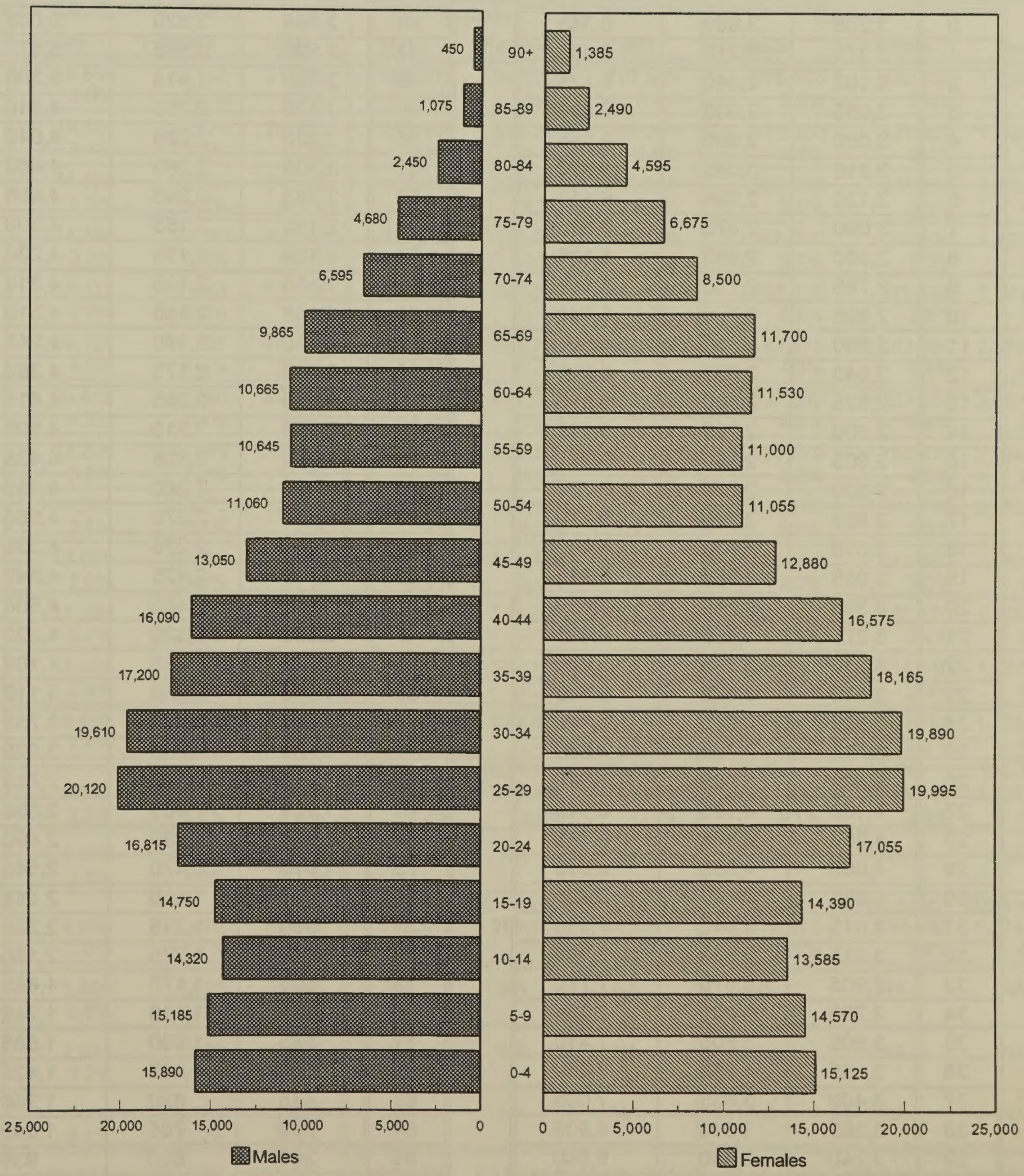
Exhibit 2.2.3. Postal Codes of Hamilton-Wentworth*


LAKE ONTARIO
LAC ONTARIO
WOODWARD AVE.
HAMILTON HARBOUR
L9J
L8L
L8H
L8E
L8R
L8P
L8N
L8M
L8S
L8G
L8K
L8T
L8V
L9A
L9C
L9H
L8J
L8W
L9B
L9G
L9K
PARKSIDE ROAD WEST
GRACEPORT AVENUE
ROCK CHAPEL RD.
OFIELD RD.
HWY 5
CRAMER RD.
CRAMER RD. (PROPOSED)
PATTERSON RD.
C.P.R.
HWY 6
HWY 48
C.N.R.
VALLEY RD.
YORK RD.
ANCASTER CREEK
TIFFANY ST.
BARTON ST. W.
JAMES ST. N.
CANNON ST. E.
WELLINGTON ST.
FAIRHOLT RD. N.
KING ST. W.
KING ST. E.
WENTWORTH ST. S.
STINSON CR.
GARFIELD AVE. N.
MAIN ST. E.
OTTAWA ST. N.
OTTAWA ST. S.
NASH RD. N.
NASH RD. S.
D.E. HWY
QUEENSTON RD.
NO. 8 HWY
REGAL VIEW DR.
T.H. & B.R.R.
MOUNTAIN RD.
JAMES ST. S.
HWY 403
ESCARPMENT
UPPER JAMES ST.
UPPER WENTWORTH ST.
UPPER GAGE AVE.
LIMERIDGE RD. E.
MUD ST. W
PRITCHARD RD. N
HAMILTON CITY BOUNDARY
STONE CHURCH RD. W.
STONE CHURCH RD. E
ANCASTER TOWN LIMITS
STONEY CREEK MUNICIPAL BOUNDARY
STONEY CREEK MUNICIPAL BOUNDARY (HWY 20 + 53)
TRINITY CHURCH RD.
MOTHERS ST.
POWER LINE CT.
SAVERYN RD.
TWENTY RD.
MILES RD.
MARTIN RD.
SOUTHCOTE RD. W.
JERSEYVILLE RD. W.
SHAVER RD.
HWY 53
SOUTH COTE RD. EXTENSION
N

*In addition to those postal codes shown on the map, there are three rural postal codes in Hamilton-Wentworth, specifically, L0R, N0A, and N0E.

Source: Canada Post Corporation, Postal Coding Division,1994.

Exhibit 2.3.1. *Age - Gender Pyramid* for Hamilton-Wentworth, 1991



Source: Statistics Canada. Profile of census tracts in Hamilton, Part A. Ottawa: Industry, Science and Technology Canada, 1992. 1991 Census of Canada. Catalogue number 95-341.

Exhibit 2.3.2. Population of Hamilton-Wentworth, by Age and by Gender, 1991

Age	Males	Females	Both sexes
0	3,295	3,050	6,345
1	3,275	3,210	6,485
2	3,185	2,940	6,125
3	3,055	2,935	5,990
4	3,080	2,990	6,065
5	3,210	3,065	6,280
6	3,120	2,995	6,110
7	3,090	2,875	5,965
8	2,980	2,895	5,880
9	2,785	2,730	5,515
10	2,995	2,750	5,745
11	2,860	2,735	5,600
12	2,840	2,675	5,510
13	2,825	2,690	5,515
14	2,800	2,735	5,535
15	2,905	2,830	5,740
16	2,900	2,875	5,775
17	2,865	2,905	5,770
18	3,010	2,930	5,945
19	3,065	2,855	5,920
20	3,380	3,245	6,630
21	3,275	3,350	6,630
22	3,240	3,365	6,605
23	3,340	3,475	6,815
24	3,580	3,615	7,195
25	3,785	3,770	7,555
26	4,005	3,985	7,995
27	4,180	4,135	8,315
28	4,060	4,105	8,165
29	4,085	4,000	8,090
30	4,035	4,190	8,225
31	4,015	3,940	7,950
32	3,915	3,985	7,900
33	3,905	3,870	7,770
34	3,750	3,905	7,655
35	3,605	3,805	7,410
36	3,565	3,875	7,440
37	3,400	3,635	7,035
38	3,395	3,510	6,905
39	3,240	3,340	6,580
40	3,240	3,415	6,655
41	3,150	3,180	6,330
42	3,230	3,220	6,450
43	3,120	3,275	6,395
44	3,350	3,480	6,835
45	2,785	2,770	5,560
46	2,565	2,520	5,085
47	2,590	2,585	5,175
48	2,680	2,615	5,300
49	2,430	2,385	4,810
50	2,350	2,295	4,640
51	2,200	2,260	4,460
52	2,245	2,245	4,485
53	2,145	2,155	4,300
54	2,120	2,105	4,230
55	2,115	2,195	4,310
56	2,145	2,165	4,310
57	2,060	2,180	4,245
58	2,190	2,175	4,360
59	2,135	2,285	4,415
60	2,195	2,310	4,505
61	2,110	2,325	4,435
62	2,100	2,260	4,355
63	2,200	2,370	4,565
64	2,060	2,275	4,335
65	2,110	2,425	4,540
66	2,040	2,460	4,500
67	2,000	2,320	4,320
68	1,855	2,245	4,100
69	1,865	2,250	4,110
70	1,665	2,115	3,780
71	1,555	1,965	3,520
72	1,210	1,525	2,735
73	1,105	1,465	2,565
74	1,060	1,430	2,490
75	1,070	1,470	2,540
76	1,085	1,460	2,545
77	960	1,295	2,255
78	870	1,275	2,150
79	695	1,170	1,865
80	635	1,110	1,745
81	585	1,000	1,585
82	480	945	1,425
83	415	830	1,250
84	330	705	1,040
85	300	630	930
86	255	570	820
87	220	530	750
88	170	430	605
89	130	330	460
90+	450	1,385	1,830
Total	220,515	231,165	451,665

Source: Statistics Canada, 1991 Census Data Diskettes

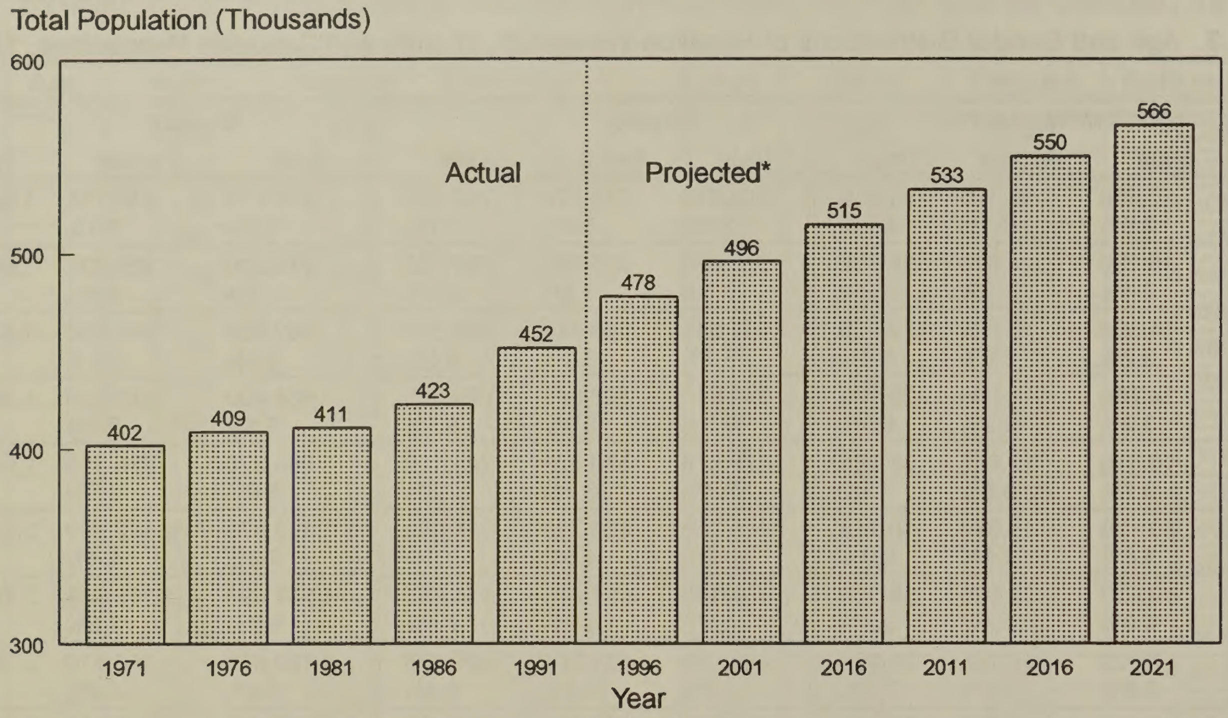
Exhibit 2.3.3. Age and Gender Distributions of Hamilton-Wentworth, Ontario and Canadian Populations, 1991

Age Group	Hamilton-Wentworth			Ontario			Canada		
(Years)	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-4	15,890 3.5%	15,125 3.3%	31,010 6.9%	362,870 3.6%	344,725 3.4%	707,595 7.0%	975,765 3.6%	930,735 3.4%	1,906,500 7.0%
5-9	15,185 3.4%	14,570 3.2%	29,755 6.6%	353,490 3.5%	335,890 3.3%	689,380 6.8%	978,220 3.6%	929,825 3.4%	1,908,045 7.0%
10-14	14,320 3.2%	13,585 3.0%	27,905 6.2%	337,515 3.3%	320,745 3.2%	658,260 6.5%	962,930 3.5%	915,090 3.4%	1,878,020 6.9%
15-19	14,750 3.3%	14,390 3.2%	29,140 6.5%	349,015 3.5%	330,045 3.3%	679,060 6.7%	958,400 3.5%	910,230 3.3%	1,868,630 6.8%
20-24	16,815 3.7%	17,055 3.8%	33,865 7.5%	370,570 3.7%	370,525 3.7%	741,100 7.3%	985,220 3.6%	976,655 3.6%	1,961,875 7.2%
25-29	20,120 4.5%	19,995 4.4%	40,115 8.9%	449,265 4.5%	455,730 4.5%	904,990 9.0%	1,182,575 4.3%	1,192,960 4.4%	2,375,535 8.7%
30-34	19,610 4.3%	19,890 4.4%	39,505 8.7%	452,190 4.5%	462,665 4.6%	914,855 9.1%	1,237,690 4.5%	1,253,355 4.6%	2,491,045 9.1%
35-39	17,200 3.8%	18,165 4.0%	35,360 7.8%	405,085 4.0%	421,390 4.2%	826,475 8.2%	1,133,670 4.2%	1,150,810 4.2%	2,284,480 8.4%
40-44	16,090 3.6%	16,575 3.7%	32,660 7.2%	382,390 3.8%	389,500 3.9%	771,890 7.7%	1,042,180 3.8%	1,044,715 3.8%	2,086,895 7.6%
45-49	13,050 2.9%	12,880 2.9%	25,930 5.7%	301,520 3.0%	300,595 3.0%	602,115 6.0%	824,200 3.0%	816,580 3.0%	1,640,780 6.0%
50-54	11,060 2.4%	11,055 2.4%	22,115 4.9%	248,565 2.5%	248,625 2.5%	497,190 4.9%	663,285 2.4%	662,170 2.4%	1,325,455 4.9%
55-59	10,645 2.4%	11,000 2.4%	21,645 4.8%	228,850 2.3%	232,170 2.3%	461,020 4.6%	608,085 2.2%	614,840 2.3%	1,222,925 4.5%
60-64	10,665 2.4%	11,530 2.6%	22,195 4.9%	218,390 2.2%	229,085 2.3%	447,475 4.4%	571,940 2.1%	604,765 2.2%	1,176,705 4.3%
65-69	9,865 2.2%	11,700 2.6%	21,565 4.8%	(65-74) 320,015 3.2%	(65-74) 393,585 3.9%	(65-74) 713,600 7.1%	(65-74) 851,422 3.1%	(65-74) 1,043,615 3.8%	(65-74) 1,895,037 6.9%
70-74	6,595 1.5%	8,500 1.9%	15,095 3.3%	NA	NA	NA	NA	NA	NA
75-79	4,680 1.0%	6,675 1.5%	11,355 2.5%	(75 & over) 173,335 1.7%	(75 & over) 296,535 2.9%	(75 & over) 469,870 4.7%	(75 & over) 478,970 1.8%	(75 & over) 795,930 2.9%	(75 & over) 1,274,900 4.7%
80-84	2,450 0.5%	4,595 1.0%	7,045 1.6%	NA	NA	NA	NA	NA	NA
85-89	1,075 0.2%	2,490 0.6%	3,565 0.8%	NA	NA	NA	NA	NA	NA
90+	450 0.1%	1,385 0.3%	1,835 0.4%	NA	NA	NA	NA	NA	NA
Total	220,515 48.8%	231,160 51.2%	451,665 100.0%	4,953,080 49.1%	5,131,805 50.9%	10,084,885 100.0%	13,454,580 49.3%	13,842,280 50.7%	27,296,859 100.0%

Percentages = % of total population for that particular area, i.e. Hamilton-Wentworth, Ontario or Canada.
NA = not available due to different age categorization

Source: Ontario Ministry of Health Morbidity and Mortality Report, 1992 - compiled from Profile of Census Divisions and Subdivisions, Part A. Statistics Canada, 1992.

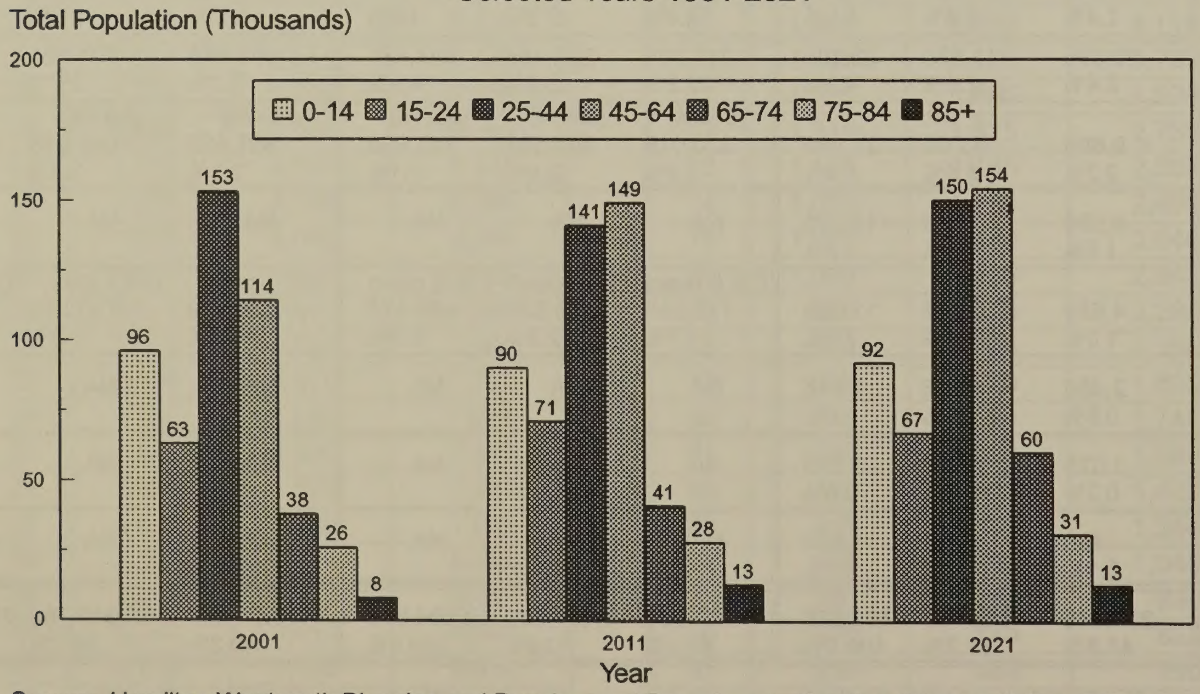
Exhibit 2.3.4. ***Population Growth*** in Hamilton-Wentworth, ***Actual and Projected*, 1971 to 2021***



*Projections based on assumptions regarding fertility, mortality and migration; refer to the source document in Section 6.2.

Source: Statistics Canada, 1971-1991 and Hamilton-Wentworth Planning and Development Department. Demographics Report 93-1.

Exhibit 2.3.5. ***Population Projections***** for Hamilton-Wentworth, by ***Age Group***, Selected Years ***1991-2021***



Source: Hamilton-Wentworth Planning and Development Department. Hamilton-Wentworth Population, Household and Labour Force Projections, 1991-2021. 1992.

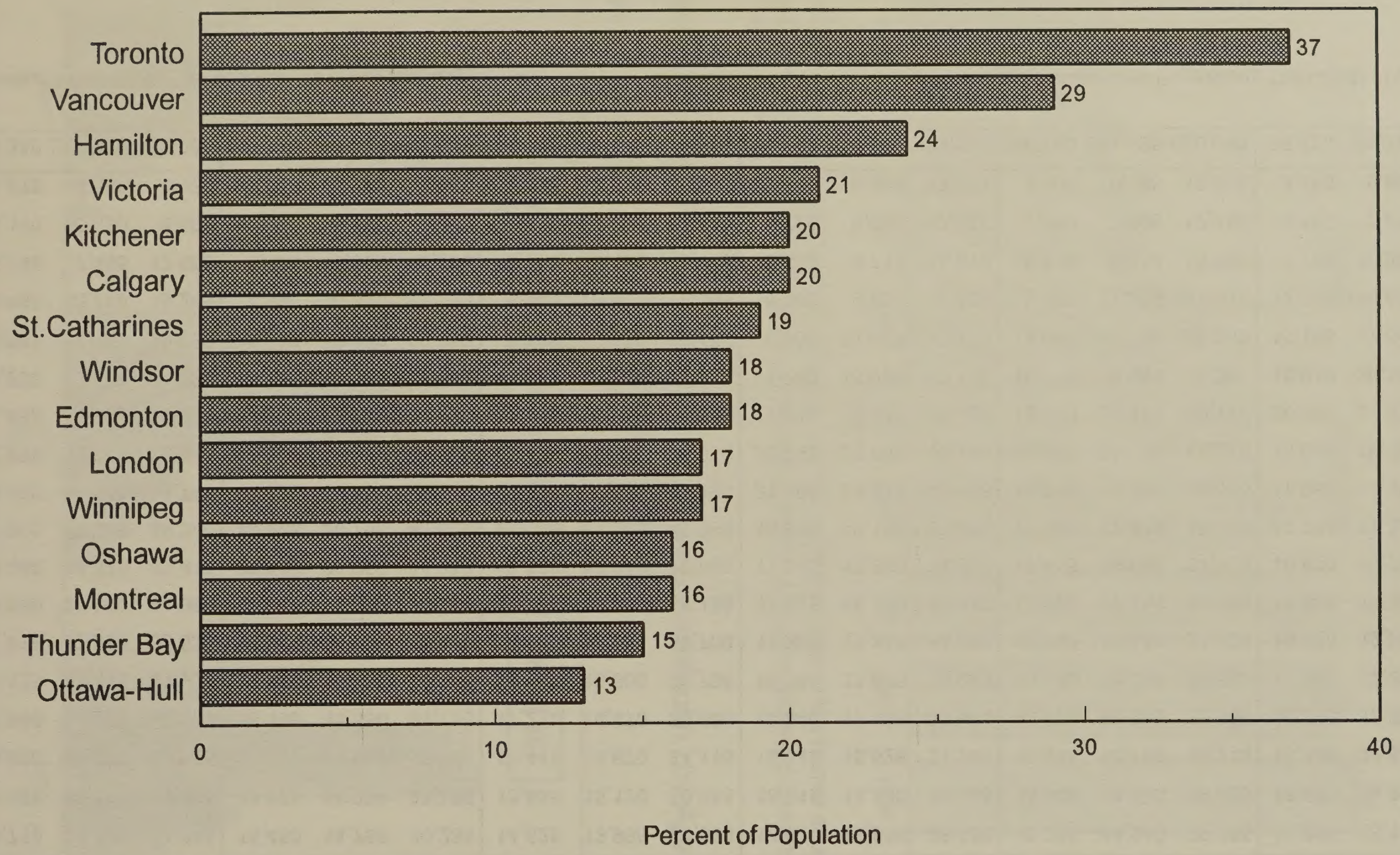
**Refer to Exhibit 2.3.6 for expanded projections.

Exhibit 2.3.6. Projected Population, by Age and by Gender, Hamilton-Wentworth, 1996-2021

Age	1996			2001			2006			2011			2016			2021		
(Years)	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-4	16,710	15,125	31,015	15,480	14,755	30,235	14,625	13,935	28,560	14,620	13,930	28,550	15,255	14,540	29,795	15,885	15,135	31,020
5-9	16,360	15,605	31,965	17,075	16,290	33,365	15,835	15,120	30,955	15,015	14,330	29,345	15,040	14,360	29,400	15,685	14,975	30,660
10-14	15,690	15,065	30,755	16,750	16,000	32,750	17,445	16,670	34,115	16,240	15,525	31,765	15,445	14,765	30,210	15,480	14,805	30,285
15-19	14,940	14,220	29,160	16,160	15,550	31,710	17,210	16,470	33,680	17,940	17,175	35,115	16,770	16,065	32,835	15,990	15,320	31,310
20-24	16,120	15,815	31,935	16,025	15,335	31,360	17,165	16,605	33,790	18,330	17,610	35,940	19,140	18,390	37,530	17,990	17,300	35,290
25-29	17,670	17,955	35,625	16,840	16,575	33,415	16,675	16,025	32,700	17,900	17,345	35,245	19,090	18,400	37,490	19,920	19,200	39,120
30-34	20,550	20,500	41,050	18,010	18,360	36,370	17,170	16,965	34,135	17,035	16,440	33,475	18,285	17,795	36,080	17,485	18,860	38,345
35-39	20,040	20,375	40,415	20,860	20,890	41,750	18,325	17,840	37,065	17,515	17,380	34,895	17,415	16,890	34,305	18,670	18,255	36,925
40-44	17,605	18,635	36,240	20,325	20,750	41,075	21,135	21,255	42,390	18,650	19,150	37,800	17,885	17,830	35,715	17,795	17,350	35,145
45-49	16,120	16,665	32,785	17,625	18,725	36,350	20,315	20,835	41,150	21,160	21,375	42,535	18,715	19,300	38,015	17,965	17,990	35,955
50-54	12,795	12,715	25,510	15,850	16,495	32,345	17,385	18,565	35,950	20,095	20,695	40,790	20,960	21,250	42,210	18,545	19,190	37,735
55-59	10,685	10,850	21,535	12,410	12,500	24,910	15,440	16,250	31,690	17,010	18,340	35,350	19,710	20,465	40,175	20,560	21,015	41,575
60-64	10,202	10,680	20,700	10,110	10,585	20,695	11,805	12,245	24,050	14,760	15,980	30,740	16,315	18,065	34,380	18,910	20,160	39,070
65-69	9,645	10,985	20,630	9,120	10,230	19,350	9,275	10,200	19,475	10,905	11,865	22,770	13,680	15,525	29,205	15,135	17,565	32,700
70-74	8,465	10,780	19,245	8,390	10,190	18,580	8,045	9,560	17,605	8,300	9,605	17,905	9,830	11,215	21,015	12,340	149,675	27,015
75-79	5,145	7,455	12,600	6,720	9,565	16,285	6,765	9,160	15,925	6,600	8,710	15,310	6,885	8,810	15,695	8,165	10,295	18,460
80-84	3,110	5,350	8,460	3,490	6,185	9,675	4,615	8,130	12,745	4,725	8,000	12,725	4,350	7,705	12,355	4,865	7,815	12,680
85+	1,675	4,660	6,335	2,090	5,735	7,825	2,450	7,015	9,465	3,185	9,390	12,575	3,405	10,185	13,590	3,350	9,840	13,190
Total	233,340	244,230	477,565	243,330	254,720	498,050	251,700	263,745	515,445	259,995	272,855	532,850	268,480	281,555	550,040	276,720	289,745	566,465

Source: Hamilton-Wentworth Planning and Development Department. Hamilton-Wentworth Population, Household and Labour Force Projections 1991-2021. 1992.

Exhibit 2.3.7. ***Immigrants**** as a ***Percentage*** of ***Metropolitan Populations*** With the ***Highest*** Populations of Immigrants, 1986



* Immigrants = people who are not Canadian Citizens at birth

Source: Social Trends Magazine, No. 14, Page 5, Autumn, 1989.

Exhibit 2.3.8. ***Population*** of Hamilton-Wentworth, by ***Three Age Categories***, 1991

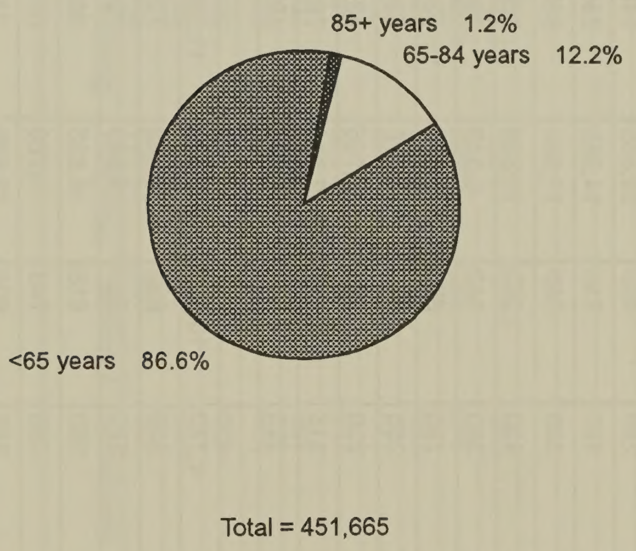


Exhibit 2.3.9 ***Population*** of Hamilton-Wentworth, by ***Age*** and by ***Gender***, 1991

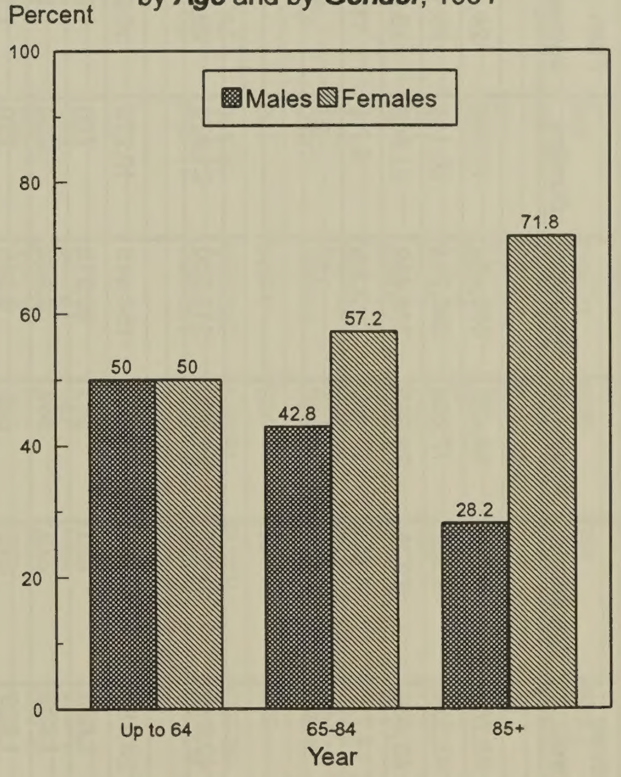


Exhibit 2.3.10. ***Population*** of ***Seniors 65 and Over*** for Municipalities of Hamilton-Wentworth, 1991

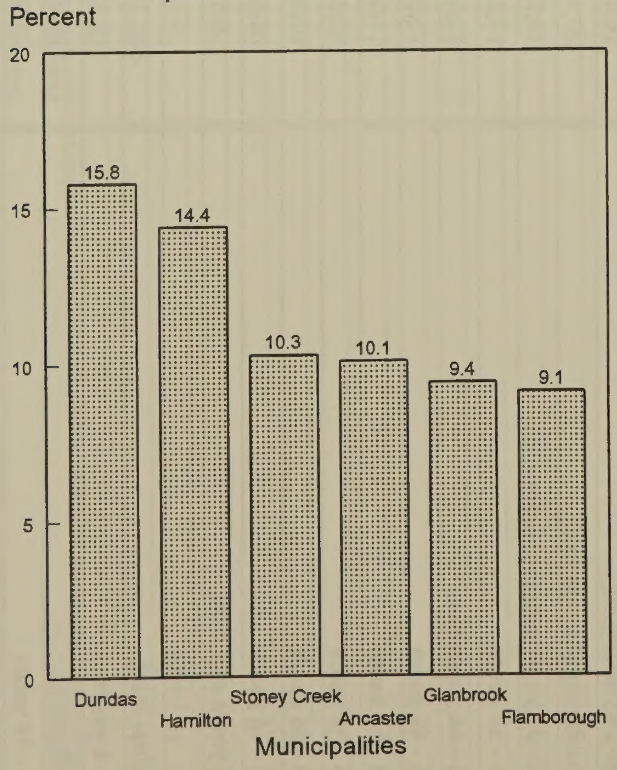
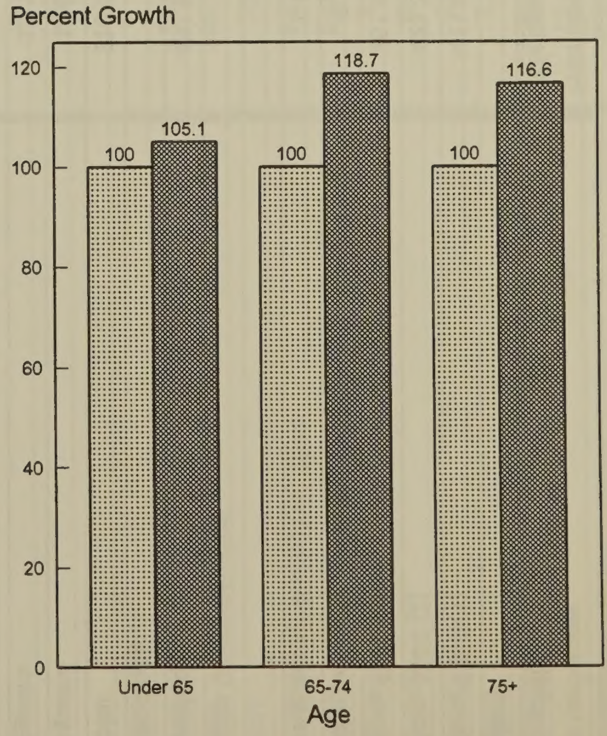


Exhibit 2.3.11. ***Relative Growth*** of ***Three Age Categories*** in Hamilton-Wentworth, ***1986 to 1991***



Source: Statistics Canada, 1971-1991 and Hamilton-Wentworth Planning and Development Department. Demographics Report 93-1.

Exhibit 2.3.12. Demographic Characteristics of Hamilton-Wentworth Residents by Municipality, 1991

Characteristic	Hamilton-Wentworth	Stoney Creek	Glanbrook	Ancaster	Hamilton	Dundas	Flam-borough
Population							
Population, 1981 (1)	411,445	36,762	9,765	14,428	306,434	19,586	24,470
Population, 1986 (2)	423,398	43,554	9,592	17,264	306,734	20,118	26,142
Population, 1991 (3)	451,665	49,968	9,726	21,988	318,499	21,868	29,616
Population percentage change, 1986-1991	6.7%	14.7%	1.4%	27.4%	3.8%	8.7%	13.3%
Land are in square kilometres, 1991	1,113	99	203	175	123	24	490
Population Characteristics							
Total poulation	451,665	49,970	9,725	21,985	318,500	21,870	29,615
by sex and age							
Male, total	220,505	24,780	4,955	11,005	154,445	10,270	15,040
0 - 4 years	15,885	1,820	355	865	10,915	700	1,225
5 - 9 years	15,185	1,955	375	980	9,910	730	1,235
10 - 14 years	14,320	1,920	375	885	9,305	720	1,115
15 - 19 years	14,745	1,895	385	890	9,795	695	1,090
20 - 24 years	16,815	1,690	335	645	12,475	700	965
25 - 29 years	20,120	1,780	295	465	15,865	740	975
30 - 34 years	19,610	2,040	425	710	14,395	795	1,240
35 - 39 years	17,200	2,155	385	960	11,590	835	1,265
40 - 44 years	16,085	2,135	430	1,050	10,325	830	1,310
45 - 49 years	13,045	1,680	380	840	8,345	700	1,100
50 - 54 years	11,060	1,360	295	650	7,400	530	835
55 - 59 years	10,645	1,140	255	510	7,475	530	730
60 - 64 years	10,665	980	220	495	7,795	485	680
65 - 74 years	16,465	1,500	315	735	12,225	785	900
75 years and over	8,650	720	125	310	6,625	495	375
Females, total	231,165	25,190	4,770	10,980	164,055	11,595	14,575
0 - 4 years	15,125	1,720	345	860	10,380	720	1,100
5 - 9 years	14,565	1,815	370	925	9,540	725	1,195
10 - 14 years	13,590	1,855	360	815	8,825	690	1,035
15 - 19 years	14,390	1,845	385	740	9,760	675	995
20 - 24 years	17,055	1,655	285	600	12,865	735	905

Exhibit 2.3.12. Demographic Characteristics of Hamilton-Wentworth Residents by Municipality, 1991 (continued)

Characteristic	Hamilton-Wentworth	Stoney Creek	Glanbrook	Ancaster	Hamilton	Dundas	Flam-borough
25 - 29 years	19,995	1,835	300	495	15,645	735	980
30 - 34 years	19,895	2,320	405	845	14,135	895	1,285
35 - 39 years	18,165	2,240	400	1,085	12,165	965	1,310
40 - 44 years	16,575	2,140	395	1,055	10,770	955	1,255
45 - 49 years	12,880	1,540	355	795	8,490	700	1,000
50 - 54 years	11,060	1,205	275	570	7,700	540	770
55 - 59 years	10,995	1,080	220	510	7,990	530	675
60 - 64 years	11,535	1,030	200	500	8,610	560	635
65 - 74 years	20,200	1,735	315	765	15,445	1,000	935
75 years and over	15,140	1,180	160	415	11,725	1,180	480
by legal marital status, persons 15							
years of age and over							
Single (never married)	101,220	9,520	1,905	3,720	76,240	4,450	5,380
Legally married (and not separated)	203,100	24,805	4,930	11,505	136,585	10,300	14,980
Legally married and separated	10,590	805	120	230	8,560	435	440
Widowed	26,485	2,190	330	715	20,730	1,560	950
Divorced	21,600	1,555	270	470	17,510	840	955
by mother tongue							
Single responses	438,030	48,015	9,575	21,635	307,950	21,605	29,255
English	348,735	36,550	8,470	18,575	269,620	19,350	26,165
French	5,925	520	15	150	4,670	170	300
Non-official languages	83,365	10,945	980	2,905	63,660	2,085	2,790
Italian	20,030	3,700	210	530	15,090	215	275
Chinese	3,570	110	5	240	3,090	95	30
German	6,060	610	165	395	3,895	430	570
Portuguese	6,600	200	45	50	6,085	20	200
Polish	7,340	790	65	160	6,010	165	140
Other lanuguages	39,760	5,525	490	1,530	29,495	1,155	1,565
Multiple responses	13,640	1,955	155	355	10,550	265	365
English and French	1,750	155	25	40	1,415	40	80
English and non-official language(s)	10,830	1,680	120	280	8,320	195	245

Exhibit 2.3.12. Demographic Characteristics of Hamilton-Wentworth Residents by Municipality, 1991 (continued)

Characteristic	Hamilton-Wentworth	Stoney Creek	Glanbrook	Ancaster	Hamilton	Dundas	Flam-borough
French and non-official language(s)	200	25	5	5	155	5	5
English, French and non-official language(s)	220	30	-	10	170	5	5
Non-official languages	640	70	10	20	495	20	25
Dwelling and Household Characteristics:							
Total number of occupied private dwellings	168,735	16,240	3,075	6,865	125,200	7,745	9,615
by tenure							
Owned	104,895	12,790	2,720	6,340	69,300	5,570	8,170
Rented	63,840	3,445	360	525	55,900	2,175	1,445
Band housing (4)	-	-	-	-	-	-	-
by structural type of dwelling							
Single-detached house	99,240	11,815	2,915	6,460	64,670	5,195	8,185
Semi-detached house	5,655	435	55	70	4,785	205	105
Row house	11,245	1,235	-	115	9,325	465	100
Apartment, detached duplex	4,690	135	50	25	4,220	110	155
Apartment building, five or more storeys	31,425	1,870	-	10	28,240	915	390
Apartment building, less than five storeys	15,300	710	45	165	13,325	825	225
Other single attached house	740	35	5	15	625	25	25
Movable dwelling (5)	445	5	-	-	10	-	430
Total number of private households	168,740	16,240	3,075	6,870	125,200	7,740	9,610
by size of household							
1 person	40,645	2,210	315	640	34,755	1,570	1,150
2 persons	52,745	4,580	940	1,990	39,615	2,565	3,050
3 persons	29,100	3,140	585	1,305	21,005	1,310	1,760
4 - 5 persons	41,080	5,675	1,065	2,615	26,465	2,090	3,160
6 or more persons	5,170	630	175	315	3,355	205	490
by number of census families							
Non-family household	47,735	2,580	390	760	40,795	1,825	1,385
1 census family	119,050	13,380	2,635	6,030	83,035	5,860	8,115
2 or more census families	1,950	280	50	80	1,370	65	115

Exhibit 2.3.12. Demographic Characteristics of Hamilton-Wentworth Residents by Municipality, 1991 (continued)

Characteristic	Hamilton-Wentworth	Stoney Creek	Glanbrook	Ancaster	Hamilton	Dundas	Flam-borough
Number of persons in private households	443,170	49,240	9,625	21,830	312,220	20,895	29,360
Average number of persons per household	2.6	3.0	3.1	3.2	2.5	2.7	3.1
Census Family Characteristics:							
Total number of census families							
in private households	122,995	13,950	2,730	6,185	85,800	5,985	8,345
by size of census family							
2 persons	53,535	5,000	1,015	2,100	39,600	2,610	3,200
3 persons	27,915	3,130	575	1,315	19,905	1,250	1,740
4 persons	28,210	4,010	740	1,830	18,015	1,460	2,145
5 or more persons	13,335	1,810	400	935	8,275	660	1,255
by family structure and presence of							
never-married sons and daughters							
Total husband - wife families (6)	106,495	12,740	2,540	5,815	72,285	5,315	7,795
Total families of now-married couples	98,905	12,135	2,415	5,665	66,315	5,010	7,360
Total without children at home	39,250	3,995	830	1,855	27,920	2,015	2,630
Total with children at home	59,655	8,135	1,585	3,815	38,400	3,000	4,725
1	21,380	2,565	485	1,135	14,705	995	1,495
2	25,800	3,820	715	1,770	16,105	1,365	2,030
3 or more	12,470	1,755	385	905	7,585	635	1,205
Total families of common-law couples	7,590	605	125	150	5,965	300	435
Total without children at home	4,700	335	70	70	3,760	195	255
Total with children at home	2,895	265	55	80	2,210	110	175
1	1,515	140	30	45	1,165	55	80
2	950	85	15	20	725	40	70
3 or more	420	35	10	20	320	10	30
Total lone-parent families	16,500	1,210	190	365	13,515	670	550
Male parent	2,670	255	55	85	2,035	115	120
1	1,705	150	40	40	1,325	80	70
2	715	75	10	35	525	25	35

Exhibit 2.3.12. Demographic Characteristics of Hamilton-Wentworth Residents by Municipality, 1991 (continued)

Characteristic	Hamilton-Wentworth	Stoney Creek	Glanbrook	Ancaster	Hamilton	Dundas	Flam-borough
3 or more	255	20	5	10	185	5	15
Female parent	13,835	955	140	275	11,475	550	425
1	7,890	515	75	135	6,590	325	240
2	4,305	340	45	95	3,515	170	135
3 or more	1,645	105	15	45	1,370	55	55
Total number of never-married							
sons and daughters at home	144,950	18,230	3,635	8,455	96,760	6,985	10,890
by age							
Under 6 years of age	36,385	4,250	830	2,130	24,700	1,665	2,810
6 - 14 years	50,370	6,675	1,295	3,160	32,660	2,555	4,020
15 - 17 years	16,120	2,215	420	985	10,510	770	1,220
18 - 24 years	28,970	3,790	800	1,650	19,160	1,465	2,105
25 years and over	13,100	1,305	285	535	9,725	530	730
Average number of never-married sons							
and daughters at home per census							
family (7)	1.2	1.3	1.3	1.4	1.1	1.2	1.3
Persons in Private Households							
by census family status and living							
arrangements							
Total number of persons	443,170	49,240	9,630	21,830	312,220	20,895	29,355
Number of non-family persons	68,735	4,320	725	1,375	57,375	2,615	2,335
Living with relatives	13,510	1,300	235	410	10,595	425	555
Living with non-relatives	14,585	810	175	325	12,020	615	640
Living alone	40,640	2,205	315	645	34,755	1,575	1,150
Number of family persons	374,435	44,925	8,905	20,455	254,845	18,285	27,020
Average number of person per census family	3.0	3.2	3.3	3.3	3.0	3.1	3.2
Total number of persons 65 years and over	56,065	4,640	915	2,180	43,090	2,645	2,600
Number of non-family persons 65 years +	21,765	1,555	240	575	17,725	930	740

Exhibit 2.3.12. Demographic Characteristics of Hamilton-Wentworth Residents by Municipality, 1991 (continued)

Characteristic	Hamilton-Wentworth	Stoney Creek	Glanbrook	Ancaster	Hamilton	Dundas	Flam-borough
Living with relatives	4,370	505	80	170	3,255	150	195
Living with non-relatives only	1,165	65	15	35	965	30	55
Living alone	16,235	980	145	365	13,510	745	490
Number of family persons 65 years and over	34,300	3,080	675	1,600	25,365	1,710	1,865
Economic Family Characteristics:							
Total number of economic families in							
private households	123,720	13,845	2,725	6,160	86,675	6,005	8,310
by size of family							
2 persons	50,840	4,555	945	1,970	37,850	2,520	3,005
3 persons	28,215	3,125	570	1,315	20,205	1,250	1,745
4 persons	28,440	3,910	760	1,820	18,315	1,485	2,145
5 or more persons	16,230	2,255	455	1,060	10,305	745	1,410
Total number of persons in economic families	387,945	46,225	9,135	20,865	255,440	18,710	27,570
Average number of persons per economic							
family	3.1	3.3	3.4	3.4	3.1	3.1	3.3
Total number of unattached individuals	55,225	3,020	490	965	46,780	2,185	1,785
Religion: *							
Religion, Protestant	198,245	18,750	5,635	11,970	131,815	11,190	18,890
Religion, Catholic	163,830	22,670	2,405	6,230	120,970	4,955	6,595
Roman Catholic (3)	161,295	22,290	2,370	6,180	118,990	4,930	6,535
No religious affiliation	60,055	5,235	1,465	2,605	43,970	3,100	3,670
United Church	58,385	5,485	2,225	4,355	36,160	3,495	6,665
Anglican	48,350	4,770	1,150	2,550	32,835	3,260	3,790
Other Protestant	30,105	2,705	470	1,120	22,420	1,335	2,055
Other Religions	24,550	2,800	180	1,140	18,165	1,845	415
Presbyterian	23,305	2,455	415	1,575	15,365	1,275	2,220
Baptist	11,730	905	380	645	8,200	745	855

Exhibit 2.3.12. Demographic Characteristics of Hamilton-Wentworth Residents by Municipality, 1991 (continued)

Characteristic	Hamilton-Wentworth	Stoney Creek	Glanbrook	Ancaster	Hamilton	Dundas	Flam-borough
Lutherian	7,455	725	245	345	5,135	460	550
Eastern Orthodox	10,805	1,595	125	315	8,370	255	145
Reformed Bodies	6,490	505	475	1,005	2,355	210	1,930
Pentecostal	6,090	490	135	125	4,765	150	425
Jewish	3,830	60	35	380	1,930	1,280	140
Islam	3,255	400	0	65	2,675	80	25
Ukrainian Catholic	2,530	380	35	50	1,975	25	60
Jehovah's Witnesses	2,710	505	65	45	1,820	125	150
Hindu	2,115	215	20	230	1,505	75	80
Salvation Army	2,015	130	15	0	1,685	65	120
Buddhist	1,960	10	0	45	1,865	40	0
Sikh	1,605	430	0	20	1,080	70	0
Latter-day Saints (Mormons)	1,060	30	55	60	780	25	120
Other (other Religions) (4)	975	85	0	85	740	45	20
Mennonite	550	30	0	145	295	55	20

Source: Statistics Canada. Profile of census tracts in Hamilton, Part A. Ottawa: Industry, Science and Technology Canada. 1992. 1991 Census of Canada. Catalogue number 95-341.

*Source: Statistics Canada. Profile Series - Part B. Ottawa: Industry, Science and Technology Canada, 1993. 1991 Census of Canada.

For footnotes, refer to Census footnotes at end of this section

Exhibit 2.3.13. 1991 Census Canada Footnotes

1. With the exception of line 1, all characteristics exclude institutional residents and are based on weighted sample data (20%). In some instances, due to weighting factors, it is possible for small areas to have an "estimated population excluding institutional residents" (line 2) higher than the "population including institutional residents" (line 1). For more detailed information, refer to "Count Discrepancies Between 100% Data and 20% Sample Data" and "Sampling and Weighting" sections of the text.

2. Indicates the number of respondents reporting knowledge of these non-official languages.

3. Includes the Polish National Catholic Church and Other Catholic.

4. "Other religions" includes Baha'i and other Eastern non-Christian, para-religious groups, and other, n.e.c.

5. Includes the single responses of Welsh and Other British, n.i.e.

6. Includes the single responses of Welsh and Other British, n.i.e.

7. Includes the single responses of Inuit, Metis and North American Indian.

8. "Black" includes the single origins of Black, Ghanaian and African Black, n.i.e.

9. A multiple response occurs when a respondent provides two or more origins.

10. Includes Canadian citizenship by birth and canadian citizenship by naturalization.

11. Includes persons born outside the province of residence as well as persons born outside Canada who have Canadian citizenship by birth and, therefore, will not have immigrated to Canada.

12. Excludes the United Kingdom.

13. "Other Asia" includes the Middle East and excludes India.

14. "Other" includes persons born in Canada who do not have Canadian citizenship by birth, but who do have a valid year of immigration.

15. Refers to persons who hold a student authorization, employment authorization or Minister's permit, or who are refugee claimants.

16. Includes the first five months only of 1991.

17. Population residing in Canada, excluding all persons in collective households and Canadians (military and government personnel) in households outside Canada.

18. Includes "Never attended school or attended kindergarten only".

19. Refers to courses completed at postsecondary non-university institutions which normally require a secondary school graduation certificate or equivalent for entrance, **as well as** to other courses in related or like institutions (such as private trade schools or adult vocational centres) which may NOT require secondary school graduation for entrance.

20. Includes "Other non-university certificate or diploma" and "Trades certificate or diploma".

21. The term "Postsecondary" refers to all educational qualifications obtained other than secondary (high) school

graduation certificate. This includes trades certificates, community college or CEGEP diplomas and all university qualifications.

22. For females 15 years and over in private households only.

23. The "Not applicable" category refers to unemployed persons 15 years and over who have never worked or who had worked only prior to January 1, 1990. For these persons, the industry, occupation and class of worker questions did not apply (this category is also referred to as the "Inexperienced labour force".

24. Occupation major group and industry division totals include computer assignment of the "Not stated" categories. These assignments are based on selected socio-economic characteristics.

25. This category is also referred to as the "Experienced labour force".

26. Applies to owner-occupied non-farm, non-reserve dwellings only.

27. Includes the first five months only of 1991.

28. Applies to tenant-occupied non-farm, non-reserve dwellings only.

29. Includes households in tenant-occupied non-farm, non-reserve dwellings with household income greater than $0 in 1990 (i.e. excludes negative or zero household income).

30. Includes households in owner-occupied non-farm, non-reserve dwellings with household incomes greater than $0 in 1990 (i.e. excludes negative or zero household income).

31. Includes never-married sons and/or daughters in the labour force, if applicable.

32. Now-married couple families and common-law couple families together constitute husband-wife families.

33. Worked 49-52 weeks in 1990, mostly full time.

34. Worked 49-52 weeks in 1990, mostly part time, or worked less than 49 weeks.

35. Percentages may not add to 100% due to rounding.

36. Includes loss.

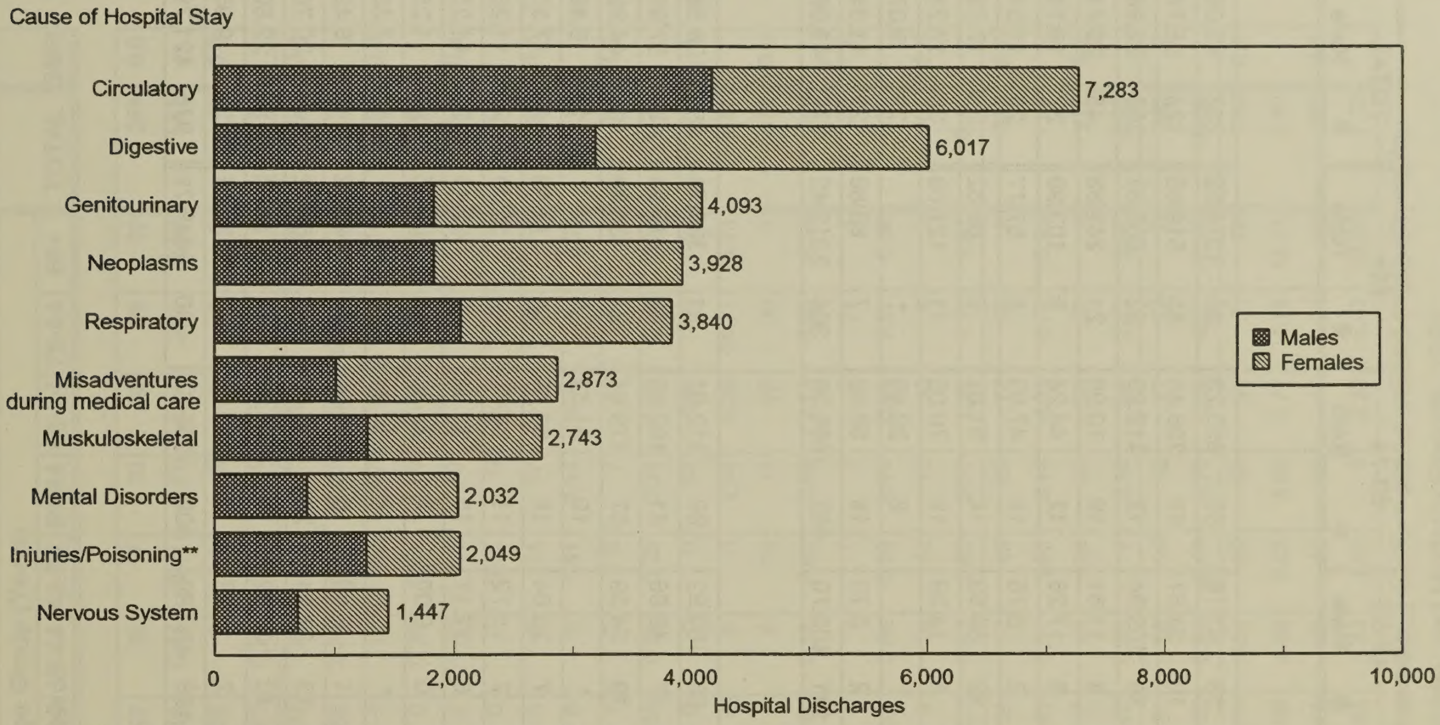
37. For persons with income.

38. See text for universe covered and for definitions of concepts and terms.

39. Calculations based on unrounded data.

Abbreviations
n.e.c. = not elsewhere classified.
n.i.e. = not included elsewhere.

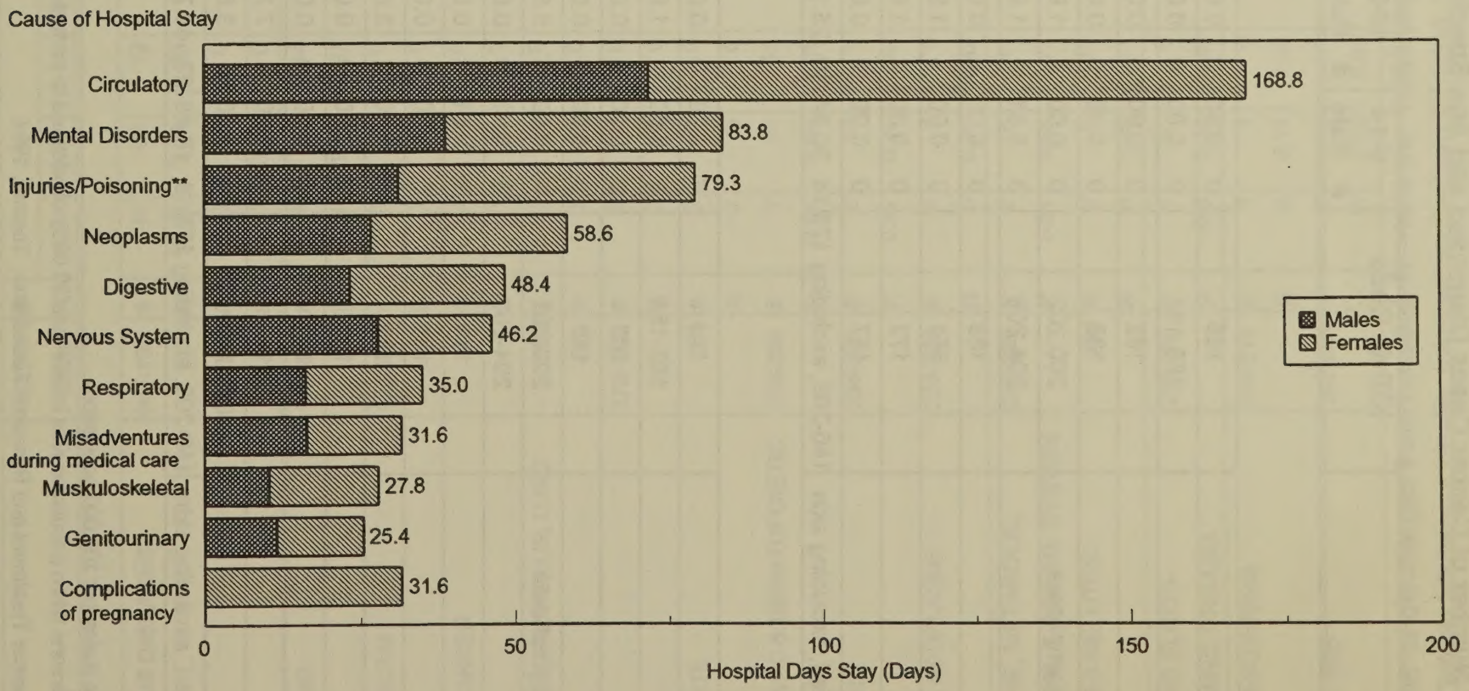
Exhibit 3.1.1. *Leading Diagnosis* at *Hospital Discharges* of Hamilton-Wentworth Residents, by *Gender**, 1990



* Bar labels indicate total numbers (male + female). Refer to Exhibit 3.1.4. for complete data broken down by gender.

** Injuries/Poisoning does not include "misadventures during medical care or procedures" ICD-9 codes E870-E879.

Exhibit 3.1.2. *Leading Diagnosis* of *Days Spent in Hospital* of Hamilton-Wentworth Residents, by *Gender**, 1990



* Bar labels indicate total numbers (male + female). Refer to Exhibit 3.1.5. for complete data broken down by gender.

** Injuries/Poisoning does not include "misadventures during medical care."

Source: Ontario Ministry of Health, Information Systems Division, 1986-1991 Morbidity and Mortality Report, 1992.

Exhibit 3.1.3. Number of Cancer Cases Diagnosed and Age-Specific Rates for the Most Common Cancers in Hamilton-Wentworth, 1991

Site	ICD-9 Code	0-14		15-29		30-44		45-59		60-74		75+		TOTAL	
		#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
MALES															
Prostate	185	0	0.00	0	0.00	0	0.00	15	43.16	95	350.23	93	1074.52	203	92.06
Colorectal	153-154	0	0.00	0	0.00	3	5.67	19	54.67	56	206.45	45	519.93	123	55.78
Lung	162	0	0.00	0	0.00	3	5.76	38	109.34	112	412.90	52	600.81	205	92.96
Bladder	188	0	0.00	0	0.00	1	1.89	4	11.51	19	70.05	21	242.63	45	20.41
Non-Hodgkin's Lymphoma	200,202	0	0.00	1	1.93	9	17.01	6	17.26	12	44.24	9	103.99	37	16.78
Leukaemia	204-208	3	6.61	1	1.93	1	1.89	2	5.75	13	47.93	5	57.77	25	11.34
Kidney	189	0	0.00	0	0.00	6	11.34	12	34.53	14	51.61	6	69.32	38	17.23
Stomach	151	0	0.00	1	1.93	2	3.78	5	14.39	19	70.05	11	127.09	38	17.23
Melanoma	172	0	0.00	1	1.93	4	7.56	*		8	29.49	*		20	9.07
Pancreas	157	0	0.00	0	0.00	0	0.00	2	5.75	16	58.99	7	80.88	25	11.34
All sites combined, excluding skin	140-208, excluding 173	14	30.84	13	25.15	53	100.19	141	405.70	452	1666.36	304	3512.42	977	443.05
FEMALES															
Breast	174	0	0.00	0	0.00	35	64.07	66	188.92	99	312.01	51	336.74	251	108.58
Colorectal	153-154	0	0.00	1	1.94	7	12.81	17	48.66	61	192.25	48	316.94	134	57.97
Lung	162	0	0.00	0	0.00	7	12.81	19	54.39	57	179.64	21	138.66	104	44.99
Bladder	188	0	0.00	0	0.00	0	0.00	*		10	31.52	*		15	6.49
Non-Hodgkin's Lymphoma	200,202	0	0.00	3	5.83	3	5.49	7	20.04	16	50.43	11	72.63	40	17.30
Leukaemia	204-208	3	6.93	0	0.00	1	1.83	2	5.72	11	34.67	9	59.43	26	11.25
Kidney	189	1	2.31	0	0.00	0	0.00	6	17.17	10	31.52	9	59.43	26	11.25
Stomach	151	0	0.00	0	0.00	1	1.83	0	0.00	9	28.36	16	105.65	26	11.25
Melanoma	172	0	0.00	2	3.89	4	7.32	*		6	18.91	*		17	7.35
Pancreas	157	0	0.00	0	0.00	1	1.83	1	2.86	6	18.91	7	46.22	15	6.49
Uterus	182	0	0.00	0	0.00	4	7.32	13	37.21	23	72.49	8	52.82	48	20.76
Ovary	183	0	0.00	4	7.78	8	14.64	10	28.62	19	59.88	11	72.63	52	22.50
Cervix	180	0	0.00	2	3.89	8	14.64	2	5.72	6	18.91	5	33.01	23	9.95
All sites combined, excluding skin	140-208, excluding 173	8	18.48	23	44.71	96	175.73	168	480.89	400	1260.64	280	1848.79	975	421.79

Abbreviations:
Rate = Age-Specific Rates per 100,000 population
* = less than five persons when population size is less than 30,000 not released to protect patient confidentiality

Source: Ontario Cancer Treatment and Research Foundation. Toronto, 1994.

Exhibit 3.1.4. Hospital Discharges of Hamilton-Wentworth Residents, by Age and by Discharge Diagnosis, 1990

Diagnosis	ICD-9 Code	# R	Age Group (Years)												TOTAL	SMR
			< 1	1-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+		
MALES:																
INFECTIOUS DISEASES	001-139	#	46	84	19	15	14	47	28	17	30	19	25	10	354	0.8
		R	13.96	3.02	1.33	1.02	0.83	1.18	0.84	0.71	1.41	1.15	3.51	6.56	1.61	
. AIDS	042-044	#	0	3	0	0	0	25	9	1	3	0	2	0	43	0.8
		R	0	0.11	0	0	0	0.63	0.27	0.04	0.14	0	0.28	0	0.19	
NEOPLASMS	140-239	#	4	46	34	15	26	34	79	149	367	577	408	87	1826	0.9
		R	1.21	1.66	2.37	1.02	1.55	0.86	2.37	6.18	17.22	35.05	57.22	57.05	8.28	
. COLORECTAL	153-154	#	0	0	0	0	0	0	12	13	37	75	43	14	194	0.9
		R	0	0	0	0	0	0	0.36	0.54	1.74	4.56	6.03	9.18	0.88	
. LIVER CANCER	155	#	0	0	0	0	0	0	0	1	0	2	2	0	5	0.3
		R	0	0	0	0	0	0	0	0.04	0	0.12	0.28	0	0.02	
. TRACHEA, BRONCHUS, LUNG	162	#	0	0	0	0	0	0	0	34	67	94	50	6	251	0.7
		R	0	0	0	0	0	0	0	1.41	3.14	5.71	7.01	3.93	1.14	
. SKIN	172-173	#	0	0	0	0	0	1	7	6	7	21	14	3	59	1.3
		R	0	0	0	0	0	0.03	0.21	0.25	0.33	1.28	1.96	1.97	0.27	
. PROSTATE	185	#	0	0	0	0	0	0	0	0	52	136	105	24	317	1
		R	0	0	0	0	0	0	0	0	2.44	8.26	14.73	15.74	1.44	
. LYMPHATIC & HEMATOPOIETIC TISSUE	200-208	#	2	18	15	7	9	7	6	15	19	35	36	7	176	0.9
		R	0.61	0.65	1.05	0.47	0.54	0.18	0.18	0.62	0.89	2.13	5.05	4.59	0.8	
. LEUKEMIA	204-208	#	2	13	6	0	0	4	2	7	3	8	24	1	70	1.1
		R	0.61	0.47	0.42	0	0	0.1	0.06	0.29	0.14	0.49	3.37	0.66	0.32	
. BENIGN NEOPLASMS	210-229	#	0	8	6	4	4	4	14	16	13	20	8	3	100	0.8
		R	0	0.29	0.42	0.27	0.24	0.1	0.42	0.66	0.61	1.22	1.12	1.97	0.45	
ENDOCRINE, METABOLIC, NUTRITION, & IMMUNE SYSTEM	240-279	#	2	16	11	16	12	25	27	40	67	77	48	8	349	0.7
		R	0.61	0.58	0.77	1.08	0.71	0.63	0.81	1.66	3.14	4.68	6.73	5.25	1.58	
. DIABETES MELLITUS	250	#	0	8	10	8	10	17	13	24	46	56	20	4	216	0.7
		R	0	0.29	0.7	0.54	0.59	0.43	0.39	1	2.16	3.4	2.81	2.62	0.98	
BLOOD AND BLOOD-FORMING ORGANS	280-289	#	1	21	8	9	21	22	18	10	16	27	29	8	190	1
		R	0.3	0.76	0.56	0.61	1.25	0.55	0.54	0.41	0.75	1.64	4.07	5.25	0.86	
MENTAL DISORDERS	290-319	#	0	4	6	37	67	198	134	92	99	61	51	20	769	0.6
		R	0	0.14	0.42	2.51	3.98	4.98	4.03	3.82	4.65	3.71	7.15	13.11	3.49	
. PSYCHOSES	290-299	#	0	1	1	19	32	73	48	45	64	45	38	16	382	0.7
		R	0	0.04	0.07	1.29	1.9	1.84	1.44	1.87	3	2.73	5.33	10.49	1.73	

# = number of discharges from hospital; R = rate per 1,000 population (1986 census); SMR = standardized morbidity ratio.

Source: Ontario Ministry of Health, Information Systems Division, 1986-1991 Morbidity and Mortality Reports, 1992

Exhibit 3.1.4. Hospital Discharges of Hamilton-Wentworth Residents, by Age and by Discharge Diagnosis, 1990 (continued)

Diagnosis	ICD-9 Code	# R	< 1	1-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	TOTAL	SMR
MALES CONTINUED:																
. NEUROTIC DISORDER	300	#	0	0	0	1	2	12	10	8	9	4	1	0	47	0.4
		R	0	0	0	0.07	0.12	0.3	0.3	0.33	0.42	0.24	0.14	0	0.21	
. ALCOHOL DEPENDENCE	303	#	0	0	0	0	8	68	45	23	17	8	6	0	175	0.9
SYNDROME		R	0	0	0	0	0.48	1.71	1.35	0.95	0.8	0.49	0.84	0	0.79	
. DRUG DEPENDENCE	304	#	0	0	0	1	2	7	3	1	2	0	0	0	16	0.4
		R	0	0	0	0.07	0.12	0.18	0.09	0.04	0.09	0	0	0	0.07	
. DEPRESSION	311	#	0	0	0	1	6	2	3	2	0	2	4	1	21	0.3
		R	0	0	0	0.07	0.36	0.05	0.09	0.08	0	0.12	0.56	0.66	0.1	
NERVOUS SYSTEM	320-389	#	14	79	17	13	25	61	49	64	109	130	102	25	688	0.7
& SENSE ORGANS		R	4.25	2.84	1.19	0.88	1.49	1.54	1.47	2.65	5.11	7.9	14.31	16.39	3.12	
CIRCULATORY SYSTEM	390-455	#	6	16	5	4	32	80	268	542	1031	1197	811	189	4181	1
		R	1.82	0.58	0.35	0.27	1.9	2.01	8.05	22.48	48.38	72.72	113.7	123.9	18.96	
. HYPERTENSIVE DISEASE	401-405	#	0	1	0	2	3	3	6	20	18	21	1	1	76	0.9
		R	0	0.04	0	0.14	0.18	0.08	0.18	0.83	0.84	1.28	0.14	0.66	0.34	
. ALL ISCHEMIC	410-414	#	0	0	1	0	3	5	136	344	584	522	324	47	1966	1
		R	0	0	0.07	0	0.18	0.13	4.09	14.27	27.4	31.71	45.44	30.82	8.92	
. ACUTE MYOCARDIAL	410	#	0	0	0	0	3	2	45	94	174	187	122	17	644	1
INFARCTION		R	0	0	0	0	0.18	0.05	1.35	3.9	8.17	11.36	17.11	11.15	2.92	
. ALL OTHER ISCHEMIC HEART	411-414	#	0	0	1	0	0	3	91	250	410	335	202	30	1322	1
DISEASE		R	0	0	0.07	0	0	0.08	2.73	10.37	19.24	20.35	28.33	19.67	6	
. ALL OTHER HEART DISEASE	390-398	#	5	4	4	2	11	21	57	71	196	285	259	82	997	0.9
	415-429	R	1.52	0.14	0.28	0.14	0.65	0.53	1.71	2.94	9.2	17.31	36.33	53.77	4.52	
. CEREBROVASCULAR DISEASE	430-438	#	0	4	0	0	0	3	11	29	87	176	159	44	513	0.8
		R	0	0.14	0	0	0	0.08	0.33	1.2	4.08	10.69	22.3	28.85	2.33	
. BLOOD VESSEL DISEASE	440-459	#	1	7	0	0	15	48	58	78	146	193	68	15	629	1
		R	0.3	0.25	0	0	0.89	1.21	1.74	3.24	6.85	11.73	9.54	9.84	2.85	
RESPIRATORY DISEASE	460-519	#	176	521	58	70	83	149	80	72	170	278	286	111	2054	0.7
		R	53.41	18.75	4.05	4.75	4.94	3.75	2.4	2.99	7.98	16.89	40.11	72.79	9.31	
. PNEUMONIA	480-486	#	32	47	20	10	6	14	13	22	48	103	131	69	515	0.8
		R	9.71	1.69	1.4	0.68	0.36	0.35	0.39	0.91	2.25	6.26	18.37	45.25	2.34	

# = number of discharges from hospital; R = rate per 1,000 population (1986 census); SMR = standardized morbidity ratio.

Source: Ontario Ministry of Health, Information Systems Division, 1986-1991 Morbidity and Mortality Reports, 1992

Exhibit 3.1.4. Hospital Discharges of Hamilton-Wentworth Residents, by Age and by Discharge Diagnosis, 1990 (continued)

Diagnosis	ICD-9 Code	# R	Age Group (Years) < 1	1-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	TOTAL	SMR
MALES CONTINUED:																
. COPD	490-496	#	26	133	5	4	3	13	7	15	59	122	110	21	518	0.6
		R	7.89	4.79	0.35	0.27	0.18	0.33	0.21	0.62	2.77	7.41	15.43	13.77	2.35	
. ASTHMA	493	#	25	130	5	4	3	10	6	3	11	14	7	1	219	0.4
		R	7.59	4.68	0.35	0.27	0.18	0.25	0.18	0.12	0.52	0.85	0.98	0.66	0.99	
DIGESTIVE DISEASE	520-579	#	75	151	48	101	120	392	421	418	581	506	309	67	3189	1
		R	22.76	5.44	3.35	6.85	7.14	9.87	12.65	17.34	27.26	30.74	43.34	43.93	14.46	
. CHRONIC LIVER DISEASE & CIRRHOSIS	571	#	0	0	0	0	1	3	6	23	26	19	7	0	85	0.9
		R	0	0	0	0	0.06	0.08	0.18	0.95	1.22	1.15	0.98	0	0.39	
GENITOURINARY DISEASE	580-629	#	9	43	17	36	31	125	130	143	402	515	326	49	1826	1
		R	2.73	1.55	1.19	2.44	1.84	3.15	3.91	5.93	18.86	31.29	45.72	32.13	8.28	
DISEASES OF SKIN & SUBCUTANEOUS TISSUE	680-709	#	4	27	12	24	25	84	45	46	50	47	17	4	385	1
		R	1.21	0.97	0.84	1.63	1.49	2.11	1.35	1.91	2.35	2.86	2.38	2.62	1.75	
MUSKULOSKELETAL & CONNECTIVE TISSUE	710-739	#	3	39	28	50	72	218	206	180	231	164	82	6	1279	0.9
		R	0.91	1.4	1.96	3.39	4.28	5.49	6.19	7.47	10.84	9.96	11.5	3.93	5.8	
. ARTHROPATHIES	710-719	#	2	16	5	19	38	86	66	63	106	92	49	3	545	1
		R	0.61	0.58	0.35	1.29	2.26	2.16	1.98	2.61	4.97	5.59	6.87	1.97	2.47	
CONGENITAL ANOMALIES	740-759	#	115	95	24	11	7	15	12	10	9	0	1	0	299	0.9
		R	34.9	3.42	1.68	0.75	0.42	0.38	0.36	0.41	0.42	0	0.14	0	1.36	
PERINATAL CONDITIONS	760-779	#	964	2	0	0	0	0	0	0	0	0	0	0	966	1
		R	292.6	0.07	0	0	0	0	0	0	0	0	0	0	4.38	
ILL DEFINED CONDITIONS	780-799	#	70	87	26	26	28	110	140	181	249	197	124	43	1281	0.8
		R	21.24	3.13	1.82	1.76	1.67	2.77	4.21	7.51	11.68	11.97	17.39	28.2	5.81	
. SYMPTOMS	780-789	#	57	85	25	26	27	107	139	180	246	178	116	35	1221	0.8
		R	17.3	3.06	1.75	1.76	1.61	2.69	4.18	7.47	11.54	10.81	16.27	22.95	5.54	
. ILL DEFINED CAUSES	797-799	#	1	1	1	0	0	1	0	0	3	17	8	7	39	0.9
		R	0.3	0.04	0.07	0	0	0.03	0	0	0.14	1.03	1.12	4.59	0.18	
INJURIES & POISONING	800-999	#	13	163	114	173	221	411	304	215	248	239	124	49	2274	1
		R	3.95	5.87	7.96	11.73	13.14	10.34	9.13	8.92	11.64	14.52	17.39	32.13	10.31	
. FRACTURES/DISLOCATIONS	800-839	#	6	78	62	74	80	169	112	73	69	68	61	30	882	1
		R	1.82	2.81	4.33	5.02	4.76	4.25	3.36	3.03	3.24	4.13	8.56	19.67	4	
. HEAD INJURY	850-854	#	3	28	15	17	17	22	15	9	13	8	6	3	156	0.7
		R	0.91	1.01	1.05	1.15	1.01	0.55	0.45	0.37	0.61	0.49	0.84	1.97	0.71	

# = number of discharges from hospital; R = rate per 1,000 population (1986 census); SMR = standardized morbidity ratio.

Source: Ontario Ministry of Health, Information Systems Division, 1986-1991 Morbidity and Mortality Reports, 1992

Exhibit 3.1.4. Hospital Discharges of Hamilton-Wentworth Residents, by Age and by Discharge Diagnosis, 1990 (continued)

Diagnosis	ICD-9 Code	# R	< 1	1-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	TOTAL	SMR
			Age Group (Years)													
MALES CONTINUED:																
. BURNS	940-949	#	0	3	3	1	2	12	10	4	0	4	0	0	39	0.8
		R	0	0.11	0.21	0.07	0.12	0.3	0.3	0.17	0	0.24	0	0	0.18	
. POISONINGS	960-979	#	1	11	2	11	14	38	38	17	10	7	4	2	155	1
		R	0.3	0.4	0.14	0.75	0.83	0.96	1.14	0.71	0.47	0.43	0.56	1.31	0.7	
EXTERNAL CAUSES	E800-999	#	23	206	135	182	256	470	371	301	406	484	265	79	3178	1
(SUPPLEMENTARY CLASS)		R	6.98	7.42	9.43	12.34	15.22	11.83	11.14	12.48	19.05	29.4	37.17	51.8	14.41	
. MOTOR VEHICLE CRASHES	810-819	#	1	23	13	34	42	68	27	22	14	15	5	1	265	1
		R	0.3	0.83	0.91	2.31	2.5	1.71	0.81	0.91	0.66	0.91	0.7	0.66	1.2	
. MOTORVEHICLE NON-TRAFFIC	E820-825	#	0	0	1	9	0	6	2	3	1	1	0	0	23	0.5
		R	0	0	0.07	0.61	0	0.15	0.06	0.12	0.05	0.06	0	0	0.1	
. TRANSPORT ACCIDENTS	E800-807	#	0	8	12	3	3	7	5	2	3	3	3	0	49	0.7
	E826-848	R	0	0.29	0.84	0.2	0.18	0.18	0.15	0.08	0.14	0.18	0.42	0	0.22	
. PEDAL CYCLE ACCIDENTS	E826	#	0	8	9	2	3	5	4	2	1	2	3	0	39	0.8
		R	0	0.29	0.63	0.14	0.18	0.13	0.12	0.08	0.05	0.12	0.42	0	0.18	
. ACCIDENTAL POISONINGS	E850-869	#	1	14	0	3	1	5	6	3	6	5	2	1	47	0.7
		R	0.3	0.5	0	0.2	0.06	0.13	0.18	0.12	0.28	0.3	0.28	0.66	0.21	
. MISADVENTURES DURING	E870-879	#	6	38	18	17	39	67	82	99	227	284	115	19	1011	1.2
MEDICAL CARE		R	1.82	1.37	1.26	1.15	2.32	1.69	2.46	4.11	10.65	17.25	16.13	12.46	4.58	
. ACCIDENTAL FALLS	E880-888	#	7	73	43	29	37	60	60	52	64	81	89	44	639	0.8
		R	2.12	2.63	3	1.97	2.2	1.51	1.8	2.16	3	4.92	12.48	28.85	2.9	
. OTHER ACCIDENTS	E890-928	#	4	32	35	51	56	106	66	51	27	31	11	3	473	0.8
		R	1.21	1.15	2.44	3.46	3.33	2.67	1.98	2.12	1.27	1.88	1.54	1.97	2.14	
. SUICIDE	E950-959	#	0	0	2	14	27	43	45	20	11	5	4	2	173	1.2
		R	0	0	0.14	0.95	1.61	1.08	1.35	0.83	0.52	0.3	0.56	1.31	0.78	
. HOMICIDE & INJURY	960-969	#	1	2	1	10	22	45	21	5	1	0	0	0	108	0.9
ON OTHERS		R	0.3	0.07	0.07	0.68	1.31	1.13	0.63	0.21	0.05	0	0	0	0.49	
MAIN CAUSE TOTALS	001-999	#	1502	1394	427	600	784	1971	1941	2179	3659	4034	2743	676	21910	0.9
MALES		R	455.8	50.18	29.82	40.68	46.63	49.61	58.31	90.38	171.7	245.1	384.7	443.3	99.36	

# = number of discharges from hospital; R = rate per 1,000 population (1986 census); SMR = standardized morbidity ratio.

Source: Ontario Ministry of Health, Information Systems Division, 1986-1991 Morbidity and Mortality Reports, 1992

Exhibit 3.1.4. Hospital Discharges of Hamilton-Wentworth Residents, by Age and by Discharge Diagnosis, 1990 (continued)

Diagnosis	ICD-9 Code	# R	< 1	1-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	TOTAL	SMR
FEMALES:																
INFECTIOUS DISEASES	001-139	#	32	61	14	18	16	28	24	10	20	29	34	19	305	0.69
		R	10.49	2.29	1.03	1.25	0.94	0.70	0.69	0.42	0.89	1.44	3.02	4.90	1.32	
. AIDS	042-044	#	0	0	0	0	1	0	0	0	0	0	0	0.00	1.00	0.32
		R	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
NEOPLASMS	140-239	#	5	20	42	14	31	144	301	317	376	447	322	83	2102	0.86
		R	1.64	0.75	3.09	0.97	1.82	3.61	8.66	13.24	16.69	22.13	28.57	21.42	9.09	
. COLORECTAL	153-154	#	0	0	0	0	0	2	5	10	28	52	38	16	151	0.77
		R	0.00	0.00	0.00	0.00	0.00	0.05	0.14	0.42	1.24	2.57	3.37	4.13	0.65	
. LIVER CANCER	155	#	0	0	0	0	0	0	0	0	3	4	0	0	7	0.59
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.20	0.00	0.00	0.03	
. TRACHEA, BRONCHUS, LUNG	162	#	0	0	0	0	0	0	4	10	33	46	16	2	111	0.62
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.42	1.46	2.28	1.42	0.52	0.48	
. SKIN	172-173	#	0	0	0	0	0	3	7	4	7	12	8	3	44	1.39
		R	0.00	0.00	0.00	0.00	0.00	0.08	0.20	0.17	0.31	0.59	0.71	0.77	0.19	
. FEMALE BREAST CANCER	174	#	0	0	0	0	1	4	44	51	67	68	52	10	297	0.85
		R	0.00	0.00	0.00	0.00	0.06	0.10	1.27	2.13	2.97	3.37	4.61	2.58	1.28	
. CERVICAL	180	#	0	0	0	0	3	12	8	7	14	7	7	1	59	1.06
		R	0.00	0.00	0.00	0.00	0.18	0.30	0.23	0.29	0.62	0.35	0.62	0.26	0.26	
. LYMPHATIC & HEMATOPOIETIC TISSUE	200-208	#	0	5	0	2	9	13	9	14	28	35	39	5	159	1.03
		R	0.00	0.19	0.00	0.14	0.53	0.33	0.26	0.58	1.24	1.73	3.46	1.29	0.69	
. LEUKEMIA	204-208	#	0	5	0	1	5	6	5	0	6	3	20	2	53	1.02
		R	0.00	0.19	0.00	0.07	0.29	0.15	0.14	0.00	0.27	0.15	1.77	0.52	0.23	
. BENIGN NEOPLASMS	210-229	#	4	5	4	9	13	75	178	133	42	38	16	2	519	0.90
		R	1.31	0.19	0.29	0.63	0.76	1.88	5.12	5.56	1.86	1.88	1.42	0.52	2.25	
ENDOCRINE, METABOLISM, NUTRITION & IMMUNE SYSTEM	240-279	#	2	5	20	8	24	38	49	27	65	81	97	46	462	0.69
		R	0.66	0.19	1.47	0.56	1.41	0.95	1.41	1.13	2.89	4.01	8.61	11.87	2.00	
. DIABETES MELLITUS	250	#	0	3	14	4	14	9	22	16	36	31	54	12	215	0.59
		R	0.00	0.11	1.03	0.28	0.82	0.23	0.63	0.67	1.60	1.53	4.79	3.10	0.93	
BLOOD AND BLOOD FORMING ORGANS	280-289	#	1	8	4	10	7	7	5	6	13	45	62	32	200	0.84
		R	0.33	0.30	0.29	0.69	0.41	0.18	0.14	0.25	0.58	2.23	5.50	8.26	0.87	
MENTAL DISORDERS	290-319	#	0	1	12	57	57	175	126	90	77	126	90	35	846	0.57
		R	0.00	0.04	0.88	3.96	3.34	4.39	3.63	3.76	3.42	6.24	7.99	9.03	3.66	

# = number of discharges from hospital; R = rate per 1,000 population (1986 census); SMR = standardized morbidity ratio.

Source: Ontario Ministry of Health, Information Systems Division, 1986-1991 Morbidity and Mortality Reports, 1992

Exhibit 3.1.4. Hospital Discharges of Hamilton-Wentworth Residents, by Age and by Discharge Diagnosis, 1990 (continued)

Diagnosis	ICD-9 Code	# R	Age Group (Years) < 1	1-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	TOTAL	SMR
FEMALES CONTINUED:																
. PSYCHOSES	290-299	#	0	0	1	19	22	80	57	52	44	87	73	30	465	0.70
		R	0.00	0.00	0.07	1.32	1.29	2.01	1.64	2.17	1.95	4.31	6.48	7.74	2.01	
. NEUROTIC DISORDER	300	#	0	0	3	7	4	17	13	9	9	18	5	0	85	0.33
		R	0.00	0.00	0.22	0.49	0.23	0.43	0.37	0.38	0.40	0.89	0.44	0.00	0.37	
. ALCOHOL DEPENDENCE	303	#	0	0	0	0	3	8	10	8	10	1	0	0	40	0.61
SYNDROME		R	0.00	0.00	0.00	0.00	0.18	0.20	0.29	0.33	0.44	0.05	0.00	0.00	0.17	
. DRUG DEPENDENCE	304	#	0	0	0	0	2	5	4	3	0	1	1	0	16	0.62
		R	0.00	0.00	0.00	0.00	0.12	0.13	0.12	0.13	0.00	0.05	0.09	0.00	0.07	
. DEPRESSION (ICD-9: 311)	311	#	0	0	0	2	7	11	12	11	7	9	7	1	67	0.51
		R	0.00	0.00	0.00	0.14	0.41	0.28	0.35	0.46	0.31	0.45	0.62	0.26	0.29	
NERVOUS SYSTEM & SENSE	320-389	#	22	43	7	15	23	79	78	50	91	162	145	44	759	0.58
ORGANS		R	7.21	1.61	0.52	1.04	1.35	1.98	2.25	2.09	4.04	8.02	12.87	11.35	3.28	
CIRCULATORY SYSTEM	390-459	#	5	4	1	7	16	76	96	223	460	861	913	440	3102	0.88
		R	1.64	0.15	0.07	0.49	0.94	1.91	2.76	9.32	20.42	42.62	81.01	113.55	13.42	
. HYPERTENSIVE DISEASE	401-405	#	0	0	0	0	0	7	5	7	10	23	17	6	75	0.56
		R	0.00	0.00	0.00	0.00	0.00	0.18	0.14	0.29	0.44	1.14	1.51	1.55	0.32	
. ALL ISCHEMIC	410-414	#	0	0	0	0	0	2	21	74	212	376	332	124	1141	1.00
		R	0.00	0.00	0.00	0.00	0.00	0.05	0.60	3.09	9.41	18.61	29.46	32.00	4.94	
. ACUTE MYOCARDIAL	410	#	0	0	0	0	0	2	4	14	64	119	121	54	378	1.03
INFARCTION		R	0.00	0.00	0.00	0.00	0.00	0.05	0.12	0.58	2.84	5.89	10.74	13.94	1.64	
. ALL OTHER ISCHEMIC HEART	411-414	#	0	0	0	0	0	0	17	60	148	257	211	70	763	0.98
DISEASE		R	0.00	0.00	0.00	0.00	0.00	0.00	0.49	2.51	6.57	12.72	18.72	18.06	3.30	
. ALL OTHER HEART DISEASE	390-398	#	5	3	1	4	4	16	15	56	106	251	310	183	954	0.91
	415-429	R	1.64	0.11	0.07	0.28	0.23	0.40	0.43	2.34	4.70	12.43	27.51	47.23	4.13	
. CEREBROVASCULAR DISEASE	430-438	#	0	1	0	2	4	5	6	26	48	123	183	82	480	0.76
		R	0.00	0.04	0.00	0.14	0.23	0.13	0.17	1.09	2.13	6.09	16.24	21.16	2.08	
. BLOOD VESSEL DISEASE	440-459	#	0	0	0	1	8	46	49	60	84	88	71	45	452	0.82
		R	0.00	0.00	0.00	0.07	0.47	1.15	1.41	2.51	3.73	4.36	6.30	11.61	1.96	
RESPIRATORY DISEASE	460-519	#	110	366	82	145	87	150	99	72	120	227	214	114	1786	0.67
		R	36.07	13.74	6.04	10.08	5.10	3.76	2.85	3.01	5.33	11.24	18.99	29.42	7.73	
. PNEUMONIA	480-486	#	22	48	8	4	5	24	23	18	47	82	96	69	446	0.82
		R	7.21	1.80	0.59	0.28	0.29	0.60	0.66	0.75	2.09	4.06	8.52	17.81	1.93	

# = number of discharges from hospital; R = rate per 1,000 population (1986 census); SMR = standardized morbidity ratio.

Source: Ontario Ministry of Health, Information Systems Division, 1986-1991 Morbidity and Mortality Reports, 1992

Exhibit 3.1.4. Hospital Discharges of Hamilton-Wentworth Residents, by Age and by Discharge Diagnosis, 1990 (continued)

Diagnosis	ICD-9 Code	# R	Age Group (Years)												TOTAL	SMR
			< 1	1-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+		
FEMALES CONTINUED:																
. COPD	490-496	#	12	57	4	27	12	32	25	35	48	108	81	19	460	0.56
		R	3.93	2.14	0.29	1.88	0.70	0.80	0.72	1.46	2.13	5.35	7.19	4.90	1.99	
. ASTHMA	493	#	11	56	4	27	10	30	18	29	15	28	13	8	249	0.49
		R	3.61	2.10	0.29	1.88	0.59	0.75	0.52	1.21	0.67	1.39	1.15	2.06	1.08	
DIGESTIVE DISEASE	520-579	#	45	98	44	90	148	407	343	331	401	409	354	149	2819	0.87
		R	14.75	3.68	3.24	6.25	8.68	10.20	9.87	13.83	17.80	20.25	31.41	38.45	12.20	
. CHRONIC LIVER DISEASE	571	#	0	0	0	0	0	1	12	9	6	14	5	1	48	0.80
& CIRRHOSIS		R	0.00	0.00	0.00	0.00	0.00	0.03	0.35	0.38	0.27	0.69	0.44	0.26	0.21	
GENITOURINARY DISEASE	580-629	#	8	22	27	91	167	506	498	319	232	241	110	46	2267	0.86
		R	2.62	0.83	1.99	6.32	9.79	12.69	14.34	13.33	10.30	11.93	9.76	11.87	9.81	
COMPLICATIONS OF	630-648	#	0	0	8	585	1551	5045	687	1	0	0	0	0	7877	1.04
PREGNANCY	651-676	R	0.00	0.00	0.59	40.65	90.94	126.49	19.78	0.04	0.00	0.00	0.00	0.00	34.08	
NORMAL DELIVERY	650	#	0	0	0	59	177	518	53	0	0	0	0	0	807	0.58
		R	0.00	0.00	0.00	4.10	10.38	12.99	1.53	0.00	0.00	0.00	0.00	0.00	3.49	
DISEASES OF SKIN &	680-709	#	6	22	5	19	21	44	22	24	25	36	34	9	267	0.80
SUBCUTANEOUS TISSUE		R	1.97	0.83	0.37	1.32	1.23	1.10	0.63	1.00	1.11	1.78	3.02	2.32	1.16	
MUSKULOSKELETAL &	710-739	#	2	21	28	47	54	167	172	176	283	299	165	50	1464	0.86
CONNECTIVE TISSUE		R	0.66	0.79	2.06	3.27	3.17	4.19	4.95	7.35	12.56	14.80	14.64	12.90	6.33	
. ARTHROPATHIES	710-719	#	2	9	6	22	26	64	50	48	131	175	95	26	654	0.89
		R	0.66	0.34	0.44	1.53	1.52	1.60	1.44	2.01	5.81	8.66	8.43	6.71	2.83	
CONGENITAL ANOMALIES	740-759	#	114	54	13	14	10	17	10	3	7	5	3	0	250	0.97
		R	37.38	2.03	0.96	0.97	0.59	0.43	0.29	0.13	0.31	0.25	0.27	0.00	1.08	
PERINATAL CONDITIONS	760-779	#	804	0	0	0	0	0	0	0	0	0	0	0	804	1.02
		R	263.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.48	
ILL DEFINED CONDITIONS	780-799	#	66	77	38	70	94	220	170	150	187	200	157	85	1514	0.82
		R	21.64	2.89	2.80	4.86	5.51	5.52	4.89	6.27	8.30	9.90	13.93	21.94	6.55	
. SYMPTOMS	780-789	#	50	77	38	68	93	216	168	146	181	191	144	71	1443	0.81
		R	16.39	2.89	2.80	4.73	5.45	5.42	4.84	6.10	8.03	9.46	12.78	18.32	6.24	
. ILL DEFINED CAUSES	797-799	#	0	0	0	0	1	1	1	1	5	9	12	12	42	0.85
		R	0.00	0.00	0.00	0.00	0.06	0.03	0.03	0.04	0.22	0.45	1.06	3.10	0.18	
INJURIES AND POISONING	800-999	#	16	87	44	81	86	190	180	147	185	237	270	197	1720	0.80
		R	5.25	3.27	3.24	5.63	5.04	4.76	5.18	6.14	8.21	11.73	23.96	50.84	7.44	
. FRACTURES/DISLOCATIONS	800-839	#	4	34	22	11	22	59	58	58	89	110	182	163	812	0.81
		R	1.31	1.28	1.62	0.76	1.29	1.48	1.67	2.42	3.95	5.45	16.15	42.06	3.51	

# = number of discharges from hospital; R = rate per 1,000 population (1986 census); SMR = standardized morbidity ratio.

Exhibit 3.1.4. Hospital Discharges of Hamilton-Wentworth Residents, by Age and by Discharge Diagnosis, 1990 (continued)

Diagnosis	ICD-9 Code	# R	Age Group (Years) < 1	1-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	TOTAL	SMR
FEMALES CONTINUED:																
. HEAD INJURY	850-854	#	5	15	2	11	6	10	1	2	5	5	7	3	72	0.53
		R	1.64	0.56	0.15	0.76	0.35	0.25	0.03	0.08	0.22	0.25	0.62	0.77	0.31	
. BURNS	940-949	#	2	2	0	0	1	3	1	1	1	1	0	0	12	0.56
		R	0.66	0.08	0.00	0.00	0.06	0.08	0.03	0.04	0.04	0.05	0.00	0.00	0.05	
. POISONINGS	960-979	#	1	9	6	28	13	30	40	16	14	9	9	5	180	0.72
		R	0.33	0.34	0.44	1.95	0.76	0.75	1.15	0.67	0.62	0.45	0.80	1.29	0.78	
EXTERNAL CAUSES	E800-999	#	26	106	59	105	133	314	287	251	326	474	442	273	2796	0.87
(SUPPLEMENTARY CLASS)		R	8.52	3.98	4.34	7.30	7.80	7.87	8.26	10.49	14.47	23.47	39.22	70.45	12.10	
. MOTOR VEHICLE ACCIDENTS	E810-819	#	0	10	6	12	16	32	18	10	6	12	12	3	137	0.75
		R	0.00	0.38	0.44	0.83	0.94	0.80	0.52	0.42	0.27	0.59	1.06	0.77	0.59	
. MOTOR VEHICLE NON-TRAFFIC	E820-825	#	0	0	0	2	0	2	2	1	3	0	2	0	12	0.88
		R	0.00	0.00	0.00	0.14	0.00	0.05	0.06	0.04	0.13	0.00	0.18	0.00	0.05	
. TRANSPORT ACCIDENTS	E800-807	#	0	1	7	3	2	2	9	3	0	0	0	0	27	0.70
		R	0.00	0.04	0.52	0.21	0.12	0.05	0.26	0.13	0.00	0.00	0.00	0.00	0.12	
. PEDAL CYCLE ACCIDENTS	E826	#	0	1	6	1	1	1	2	2	0	0	0	0	14	0.66
		R	0.00	0.04	0.44	0.07	0.06	0.03	0.06	0.08	0.00	0.00	0.00	0.00	0.06	
. ACCIDENTAL POISONINGS	E850-869	#	1	13	0	1	1	4	6	2	4	9	4	2	47	0.78
		R	0.33	0.49	0.00	0.07	0.06	0.10	0.17	0.08	0.18	0.45	0.35	0.52	0.20	
. MISADVENTURES DURING	E870-879	#	12	15	9	19	35	103	116	115	147	194	134	35	934	1.09
MEDICAL CARE		R	3.93	0.56	0.66	1.32	2.05	2.58	3.34	4.80	6.52	9.60	11.89	9.03	4.04	
. ACCIDENTAL FALLS	E880-888	#	9	39	12	5	13	36	34	48	93	138	207	204	838	0.76
		R	2.95	1.46	0.88	0.35	0.76	0.90	0.98	2.01	4.13	6.83	18.37	52.65	3.63	
. OTHER ACCIDENTS	E890-928	#	3	16	8	14	13	31	21	15	12	17	11	3	164	0.65
		R	0.98	0.60	0.59	0.97	0.76	0.78	0.60	0.63	0.53	0.84	0.98	0.77	0.71	
. SUICIDE	E950-959	#	0	0	7	39	21	56	43	29	13	6	6	0	220	0.92
		R	0.00	0.00	0.52	2.71	1.23	1.40	1.24	1.21	0.58	0.30	0.53	0.00	0.95	
. HOMICIDE & INJURY ON OTHERS	E960-969	#	0	4	0	3	10	5	1	1	0	0	0	0	24	0.73
		R	0.00	0.15	0.00	0.21	0.59	0.13	0.03	0.04	0.00	0.00	0.00	0.00	0.10	
MAIN CAUSE TOTALS	001-999	#	1238	889	389	1330	2569	7811	2913	1946	2542	3405	2970	1349	29351	0.85
FEMALES		R	405.90	33.36	28.63	92.43	150.63	195.84	83.85	81.30	112.83	168.56	263.53	348.13	126.97	

# = number of discharges from hospital; R = rate per 1,000 population (1986 census); SMR = standardized morbidity ratio.

Source: Ontario Ministry of Health, Information Systems Division, 1986-1991 Morbidity and Mortality Reports, 1992

Exhibit 3.1.4. Hospital Discharges of Hamilton-Wentworth Residents, by Age and by Discharge Diagnosis, 1990 (continued)

Diagnosis	ICD-9 Code	# R	Age Group (Years) < 1	1-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	TOTAL	SMR
TOTAL POPULATION																
INFECTIOUS DISEASES	001-139	#	78	145	33	33	30	75	52	27	50	48	59	29	659	0.73
		R	12.29	2.66	1.18	1.13	0.89	0.94	0.76	0.56	1.14	1.31	3.21	5.37	1.46	
. AIDS	042-044	#	0	3	0	0	1	25	9	1	3	0	2	0	44	0.76
		R	0.00	0.06	0.00	0.00	0.03	0.31	0.13	0.02	0.07	0.00	0.11	0.00	0.10	
NEOPLASMS	140-239	#	9	66	76	29	57	178	380	466	743	1024	730	170	3928	0.86
		R	1.42	1.21	2.72	1.00	1.68	2.24	5.59	9.70	16.95	27.93	39.67	31.48	8.70	
. COLORECTAL	153-154	#	0	0	0	0	0	2	17	23	65	127	81	30	345	0.84
		R	0.00	0.00	0.00	0.00	0.00	0.03	0.25	0.48	1.48	3.46	4.40	5.56	0.76	
. LIVER CANCER	155	#	0	0	0	0	0	0	0	1	3	6	2	0	12	0.41
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.07	0.16	0.11	0.00	0.03	
. TRACHEA, BRONCHUS, LUNG	162	#	0	0	0	0	0	0	4	44	100	140	66	8	362	0.69
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.92	2.28	3.82	3.59	1.48	0.80	
. SKIN	172-173	#	0	0	0	0	0	4	14	10	14	33	22	6	103	1.32
		R	0.00	0.00	0.00	0.00	0.00	0.05	0.21	0.21	0.32	0.90	1.20	1.11	0.23	
. FEMALE BREAST CANCER	174	#	0	0	0	0	1	4	44	51	67	68	52	10	297	0.85
		R	0.00	0.00	0.00	0.00	0.03	0.05	0.65	1.06	1.53	1.85	2.83	1.85	0.66	
. CERVICAL	180	#	0	0	0	0	3	12	8	7	14	7	7	1	59	1.06
		R	0.00	0.00	0.00	0.00	0.09	0.15	0.12	0.15	0.32	0.19	0.38	0.19	0.13	
. PROSTATE	185	#	0	0	0	0	0	0	0	0	52	136	105	24	317	1.00
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.19	3.71	5.71	4.44	0.70	
.LYMPHATIC & HEMATOPOIETIC TISSUE	200-208	#	2	23	15	9	18	20	15	29	47	70	75	12	335	0.97
		R	0.32	0.42	0.54	0.31	0.53	0.25	0.22	0.60	1.07	1.91	4.08	2.22	0.74	
. LEUKEMIA	204-208	#	2	18	6	1	5	10	7	7	9	11	44	3	123	1.05
		R	0.32	0.33	0.22	0.03	0.15	0.13	0.10	0.15	0.21	0.30	2.39	0.56	0.27	
. BENIGN NEOPLASMS	210-229	#	4	13	10	13	17	79	192	149	55	58	24	5	619	0.87
		R	0.63	0.24	0.36	0.45	0.50	0.99	2.82	3.10	1.25	1.58	1.30	0.93	1.37	
ENDOCRINE, METABOLIC, NUTRITION & IMMUNE SYSTEM	240-279	#	4	21	31	24	36	63	76	67	132	158	145	54	811	0.70
		R	0.63	0.39	1.11	0.82	1.06	0.79	1.12	1.39	3.01	4.31	7.88	10.00	1.80	
. DIABETES MELLITUS	250	#	0	11	24	12	24	26	35	40	82	87	74	16	431	0.62
		R	0.00	0.20	0.86	0.41	0.71	0.33	0.51	0.83	1.87	2.37	4.02	2.96	0.95	

# = number of discharges from hospital; R = rate per 1,000 population (1986 census); SMR = standardized morbidity ratio.

Source: Ontario Ministry of Health, Information Systems Division, 1986-1991 Morbidity and Mortality Reports, 1992

Exhibit 3.1.4. Hospital Discharges of Hamilton-Wentworth Residents, by Age and by Discharge Diagnosis, 1990 (continued)

Diagnosis	ICD-9 Code	# R	Age Group (Years)												TOTAL	SMR
			< 1	1-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+		
TOTAL POULATION CONTINUED:																
BLOOD AND BLOOD FORMING ORGANS	280-289	#	2	29	12	19	28	29	23	16	29	72	91	40	390	0.92
		R	0.32	0.53	0.43	0.65	0.83	0.36	0.34	0.33	0.66	1.96	4.95	7.41	0.86	
MENTAL DISORDERS	290-319	#	0	5	18	94	124	373	260	182	176	187	141	55	1615	0.60
		R	0.00	0.09	0.65	3.23	3.66	4.69	3.82	3.79	4.01	5.10	7.66	10.19	3.58	
. PSYCHOSES	290-299	#	0	1	2	38	54	153	105	97	108	132	111	46	847	0.70
		R	0.00	0.02	0.07	1.30	1.59	1.92	1.54	2.02	2.46	3.60	6.03	8.52	1.88	
. NEUROTIC DISORDER	300	#	0	0	3	8	6	29	23	17	18	22	6	0	132	0.34
		R	0.00	0.00	0.11	0.27	0.18	0.36	0.34	0.35	0.41	0.60	0.33	0.00	0.29	
. ALCOHOL DEPENDENCE SYNDROME	303	#	0	0	0	0	11	76	55	31	27	9	6	0	215	0.85
		R	0.00	0.00	0.00	0.00	0.32	0.95	0.81	0.65	0.62	0.25	0.33	0.00	0.48	
. DRUG DEPENDENCE	304	#	0	0	0	1	4	12	7	4	2	1	1	0	32	0.49
		R	0.00	0.00	0.00	0.03	0.12	0.15	0.10	0.08	0.05	0.03	0.05	0.00	0.07	
. DEPRESSION	311	#	0	0	0	3	13	13	15	13	7	11	11	2	88	0.45
		R	0.00	0.00	0.00	0.10	0.38	0.16	0.22	0.27	0.16	0.30	0.60	0.37	0.19	
NERVOUS SYSTEM & SENSE ORGANS	320-389	#	36	122	24	28	48	140	127	114	200	292	247	69	1447	0.62
		R	5.67	2.24	0.86	0.96	1.42	1.76	1.87	2.37	4.56	7.97	13.42	12.78	3.20	
CIRCULATORY SYSTEM	390-459	#	11	20	6	11	48	156	364	765	1491	2058	1724	629	7283	0.93
		R	1.73	0.37	0.22	0.38	1.42	1.96	5.35	15.92	34.01	56.14	93.70	116.48	16.12	
. HYPERTENSIVE DISEASE	401-405	#	0	1	0	2	3	10	11	27	28	44	18	7	151	0.70
		R	0.00	0.02	0.00	0.07	0.09	0.13	0.16	0.56	0.64	1.20	0.98	1.30	0.33	
. ALL ISCHEMIC	410-414	#	0	0	1	0	3	7	157	418	796	898	656	171	3107	1.02
		R	0.00	0.00	0.04	0.00	0.09	0.09	2.31	8.70	18.16	24.50	35.65	31.67	6.88	
. ACUTE MYOCARDIAL INFARCTION	410	#	0	0	0	0	3	4	49	108	238	306	243	71	1022	1.03
		R	0.00	0.00	0.00	0.00	0.09	0.05	0.72	2.25	5.43	8.35	13.21	13.15	2.26	
. ALL OTHER ISCHEMIC HEART DISEASE	411-414	#	0	0	1	0	0	3	108	310	558	592	413	100	2085	1.02
		R	0.00	0.00	0.04	0.00	0.00	0.04	1.59	6.45	12.73	16.15	22.45	18.52	4.62	
. ALL OTHER HEART DISEASE	390-398	#	10	7	5	6	15	37	72	127	302	536	569	265	1951	0.92
	415-429	R	1.58	0.13	0.18	0.21	0.44	0.46	1.06	2.64	6.89	14.62	30.92	49.07	4.32	
. CEREBROVASCULAR DISEASE	430-438	#	0	5	0	2	4	8	17	55	135	299	342	126	993	0.80
		R	0.00	0.09	0.00	0.07	0.12	0.10	0.25	1.14	3.08	8.16	18.59	23.33	2.20	
. BLOOD VESSEL DISEASE	440-459	#	1	7	0	1	23	94	107	138	230	281	139	60	1081	0.90
		R	0.16	0.13	0.00	0.03	0.68	1.18	1.57	2.87	5.25	7.67	7.55	11.11	2.39	

# = number of discharges from hospital; R = rate per 1,000 population (1986 census); SMR = standardized morbidity ratio.

Source: Ontario Ministry of Health, Information Systems Division, 1986-1991 Morbidity and Mortality Reports, 1992

Exhibit 3.1.4. Hospital Discharges of Hamilton-Wentworth Residents, by Age and by Discharge Diagnosis, 1990 (continued)

Diagnosis	ICD-9 Code	# R	Age Group (Years)												TOTAL	SMR
			< 1	1-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+		
TOTAL POULATION CONTINUED:																
RESPIRATORY DISEASE	460-519	#	286	887	140	215	170	299	179	144	290	505	500	225	3840	0.67
		R	45.07	16.30	5.02	7.38	5.02	3.76	2.63	3.00	6.61	13.78	27.17	41.67	8.50	
. PNEUMONIA	480-486	#	54	95	28	14	11	38	36	40	95	185	227	138	961	0.82
		R	8.51	1.75	1.00	0.48	0.32	0.48	0.53	0.83	2.17	5.05	12.34	25.56	2.13	
. COPD	490-496	#	38	190	9	31	15	45	32	50	107	230	191	40	978	0.55
		R	5.99	3.49	0.32	1.06	0.44	0.57	0.47	1.04	2.44	6.27	10.38	7.41	2.17	
. ASTHMA	493	#	36	186	9	31	13	40	24	32	26	42	20	9	468	0.46
		R	5.67	3.42	0.32	1.06	0.38	0.50	0.35	0.67	0.59	1.15	1.09	1.67	1.04	
DIGESTIVE DISEASE	520-579	#	120	249	92	191	268	799	764	749	982	915	663	216	6008	0.91
		R	18.91	4.58	3.30	6.55	7.91	10.04	11.23	15.59	22.40	24.96	36.03	40.00	13.30	
. CHRONIC LIVER DISEASE	571	#	0	0	0	0	1	4	18	32	32	33	12	1	133	0.86
& CIRRHOSIS		R	0.00	0.00	0.00	0.00	0.03	0.05	0.26	0.67	0.73	0.90	0.65	0.19	0.29	
GENITOURINARY DISEASE	580-629	#	17	65	44	127	198	631	628	462	634	756	436	95	4093	0.90
		R	2.68	1.19	1.58	4.36	5.85	7.93	9.23	9.62	14.46	20.62	23.70	17.59	9.06	
COMPLICATIONS OF	630-648	#	0	0	8	585	1551	5045	687	1	0	0	0	0	7877	1.04
PREGNANCY	651-676	R	0.00	0.00	0.29	20.08	45.79	63.37	10.10	0.02	0.00	0.00	0.00	0.00	17.44	
NORMAL DELIVERY	650	#	0	0	0	59	177	518	53	0	0	0	0	0	807	0.58
		R	0.00	0.00	0.00	2.02	5.23	6.51	0.78	0.00	0.00	0.00	0.00	0.00	1.79	
DISEASES OF SKIN &	680-709	#	10	49	17	43	46	128	67	70	75	83	51	13	652	0.92
SUBCUT TISSUE		R	1.58	0.90	0.61	1.48	1.36	1.61	0.98	1.46	1.71	2.26	2.77	2.41	1.44	
MUSKULOSKELETAL AND	710-739	#	5	60	56	97	126	385	378	356	514	463	247	56	2743	0.89
CONN TISSUE		R	0.79	1.10	2.01	3.33	3.72	4.84	5.56	7.41	11.72	12.63	13.42	10.37	6.07	
. ARTHROPATHIES	710-719	#	4	25	11	41	64	150	116	111	237	267	144	29	1199	0.93
		R	0.63	0.46	0.39	1.41	1.89	1.88	1.71	2.31	5.41	7.28	7.83	5.37	2.65	
CONGENITAL ANOMALIES	740-759	#	229	149	37	25	17	32	22	13	16	5	4	0	549	0.91
		R	36.09	2.74	1.33	0.86	0.50	0.40	0.32	0.27	0.36	0.14	0.22	0.00	1.22	
PERINATAL CONDITIONS	760-779	#	1768	2	0	0	0	0	0	0	0	0	0	0	1770	1.00
		R	278.64	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.92	
ILL DEFINED CONDITIONS	780-799	#	136	164	64	96	122	330	310	331	436	397	281	128	2795	0.80
		R	21.43	3.01	2.29	3.29	3.60	4.14	4.56	6.89	9.95	10.83	15.27	23.70	6.19	
. SYMPTOMS	780-789	#	107	162	63	94	120	323	307	326	427	369	260	106	2664	0.80
		R	16.86	2.98	2.26	3.23	3.54	4.06	4.51	6.79	9.74	10.07	14.13	19.63	5.90	

# = number of discharges from hospital; R = rate per 1,000 population (1986 census); SMR = standardized morbidity ratio.

Source: Ontario Ministry of Health, Information Systems Division, 1986-1991 Morbidity and Mortality Reports, 1992

Exhibit 3.1.4. Hospital Discharges of Hamilton-Wentworth Residents, by Age and by Discharge Diagnosis, 1990 (continued)

Diagnosis	ICD-9 Code	# R	Age Group (Years) < 1	1-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	TOTAL	SMR
TOTAL POULATION CONTINUED:																
. ILL DEFINED CAUSES	797-799	#	1	1	1	0	1	2	1	1	8	26	20	19	81	0.85
		R	0.16	0.02	0.04	0.00	0.03	0.03	0.01	0.02	0.18	0.71	1.09	3.52	0.18	
INJURIES AND POISONING	800-999	#	29	250	158	254	307	601	484	362	433	476	394	246	3994	0.88
		R	4.57	4.59	5.66	8.72	9.06	7.55	7.11	7.53	9.88	12.98	21.41	45.56	8.84	
. FRACTURES/DISLOCATIONS	800-839	#	10	112	84	85	102	228	170	131	158	178	243	193	1694	0.89
		R	1.58	2.06	3.01	2.92	3.01	2.86	2.50	2.73	3.60	4.86	13.21	35.74	3.75	
. HEAD INJURY	850-854	#	8	43	17	28	23	32	16	11	18	13	13	6	228	0.60
		R	1.26	0.79	0.61	0.96	0.68	0.40	0.24	0.23	0.41	0.35	0.71	1.11	0.50	
. BURNS	940-949	#	2	5	3	1	3	15	11	5	1	5	0	0	51	0.72
		R	0.32	0.09	0.11	0.03	0.09	0.19	0.16	0.10	0.02	0.14	0.00	0.00	0.11	
. POISONINGS	960-979	#	2	20	8	39	27	68	78	33	24	16	13	7	335	0.82
		R	0.32	0.37	0.29	1.34	0.80	0.85	1.15	0.69	0.55	0.44	0.71	1.30	0.74	
EXTERNAL CAUSES	E800-999	#	49	312	194	287	389	784	658	552	732	958	707	352	5974	0.92
(SUPPLEMENTARY CLASS)		R	7.72	5.73	6.95	9.85	11.49	9.85	9.67	11.49	16.70	26.13	38.42	65.19	13.23	
. MOTOR VEHICLE ACCIDENTS	E810-819	#	1	33	19	46	58	100	45	32	20	27	17	4	402	0.88
		R	0.16	0.61	0.68	1.58	1.71	1.26	0.66	0.67	0.46	0.74	0.92	0.74	0.89	
. MOTOR VEHICLE NON-TRAFFIC	E820-825	#	0	0	1	11	0	8	4	4	4	1	2	0	35	0.57
		R	0.00	0.00	0.04	0.38	0.00	0.10	0.06	0.08	0.09	0.03	0.11	0.00	0.08	
. TRANSPORT ACCIDENTS	E800-807	#	0	9	19	6	5	9	14	5	3	3	3	0	76	0.69
		R	0.00	0.17	0.68	0.21	0.15	0.11	0.21	0.10	0.07	0.08	0.16	0.00	0.17	
. PEDAL CYCLE ACCIDENTS	E826	#	0	9	15	3	4	6	6	4	1	2	3	0	53	0.78
		R	0.00	0.17	0.54	0.10	0.12	0.08	0.09	0.08	0.02	0.05	0.16	0.00	0.12	
. ACCIDENTAL POISONINGS	E850-869	#	2	27	0	4	2	9	12	5	10	14	6	3	94	0.75
		R	0.32	0.50	0.00	0.14	0.06	0.11	0.18	0.10	0.23	0.38	0.33	0.56	0.21	
. MISADVENTURES DURING	870-879E	#	18	53	27	36	74	170	198	214	374	478	249	54	1945	1.13
MEDICAL CARE		R	2.84	0.97	0.97	1.24	2.18	2.14	2.91	4.45	8.53	13.04	13.53	10.00	4.31	
. ACCIDENTAL FALLS	E880-888	#	16	112	55	34	50	96	94	100	157	219	296	248	1477	0.79
		R	2.52	2.06	1.97	1.17	1.48	1.21	1.38	2.08	3.58	5.97	16.09	45.93	3.27	
. OTHER ACCIDENTS	E890-928	#	7	48	43	65	69	137	87	66	39	48	22	6	637	0.75
		R	1.10	0.88	1.54	2.23	2.04	1.72	1.28	1.37	0.89	1.31	1.20	1.11	1.41	
. SUICIDE	E950-959	#	0	0	9	53	48	99	88	49	24	11	10	2	393	1.02
		R	0.00	0.00	0.32	1.82	1.42	1.24	1.29	1.02	0.55	0.30	0.54	0.37	0.87	

# = number of discharges from hospital; R = rate per 1,000 population (1986 census); SMR = standardized morbidity ratio.

Source: Ontario Ministry of Health, Information Systems Division, 1986-1991 Morbidity and Mortality Reports, 1992

Exhibit 3.1.4. Hospital Discharges of Hamilton-Wentworth Residents, by Age and by Discharge Diagnosis, 1990 (continued)

Diagnosis	ICD-9 Code	# R	Age Group (Years)												TOTAL	SMR
			< 1	1-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+		
TOTAL POULATION CONTINUED:																
. HOMICIDE & INJURY ON OTHERS	E960-969	#	1	6	1	13	32	50	22	6	1	0	0	0	132	0.85
		R	0.16	0.11	0.04	0.45	0.94	0.63	0.32	0.12	0.02	0.00	0.00	0.00	0.29	
MAIN CAUSE TOTALS	001-999	#	2740	2283	816	1930	3353	9782	4854	4125	6201	7439	5713	2025	51261	0.86
TOTAL POPULATION		R	431.84	41.95	29.24	66.23	99.00	122.87	71.35	85.86	141.45	202.92	310.49	375.00	113.49	

# = number of discharges from hospital; R = rate per 1,000 population (1986 census); SMR = standardized morbidity ratio.

Source: Ontario Ministry of Health, Information Systems Division, 1986-1991 Morbidity and Mortality Reports, 1992

Exhibit 3.1.5. Days Spent in Hospital by Hamilton-Wentworth Residents, by Age and by Discharge Diagnosis, 1990

Diagnosis	ICD-9 Code	# R	Age Group (Years)												TOTAL	SMR
			< 1	1-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+		
MALES:																
INFECTIOUS DISEASES	001-139	#	156	246	58	100	71	657	266	184	361	225	440	708	3472	0.75
		R	47.34	8.86	4.05	6.78	4.22	16.54	7.99	7.63	16.94	13.67	61.71	464.26	15.74	
. AIDS	042-044	#	0	14	0	0	0	507	86	29	50	0	22	0	708.00	0.71
		R	0.00	0.50	0.00	0.00	0.00	12.76	2.58	1.20	2.35	0.00	3.09	0.00	3.21	
NEOPLASMS	140-239	#	92	355	310	85	278	351	736	1820	5157	8311	6594	2721	26810	0.89
		R	27.92	12.78	21.65	5.76	16.53	8.83	22.11	75.49	242.00	504.92	924.82	1784.26	121.58	
. COLORECTAL	153-154	#	0	0	0	0	0	0	103	136	524	1457	1264	1273	4757	1.20
		R	0.00	0.00	0.00	0.00	0.00	0.00	3.09	5.64	24.59	88.52	177.28	834.75	21.57	
. LIVER CANCER	155	#	0	0	0	0	0	0	0	2	0	25	30	0	57	0.21
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	1.52	4.21	0.00	0.26	
. TRACHEA, BRONCHUS, LUNG	162	#	0	0	0	0	0	0	0	361	1064	1399	842	58	3724	0.76
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.97	49.93	84.99	118.09	38.03	16.89	
. SKIN	172-173	#	0	0	0	0	0	1	43	14	27	50	49	6	190	0.49
		R	0.00	0.00	0.00	0.00	0.00	0.03	1.29	0.58	1.27	3.04	6.87	3.93	0.86	
. PROSTATE	185	#	0	0	0	0	0	0	0	0	538	1274	1364	669	3845	0.97
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.25	77.40	191.30	438.69	17.44	
. LYMPHATIC & HEMATOPOIETIC	200-208	#	68	207	197	58	115	196	110	243	241	616	459	303	2813	0.89
TISSUE		R	20.64	7.45	13.76	3.93	6.84	4.93	3.30	10.08	11.31	37.42	64.38	198.69	12.76	
. LEUKEMIA	204-208	#	68	166	154	0	0	180	70	158	35	262	290	152	1535	1.26
		R	20.64	5.98	10.75	0.00	0.00	4.53	2.10	6.55	1.64	15.92	40.67	99.67	6.96	
. BENIGN NEOPLASMS	210-229	#	0	9	17	12	39	34	70	85	65	134	193	55	713	0.73
		R	0.00	0.32	1.19	0.81	2.32	0.86	2.10	3.53	3.05	8.14	27.07	36.07	3.23	
ENDOCRINE, METABOLIC,	240-279	#	44	73	21	132	56	200	205	527	757	3169	840	205	6229	0.95
NUTRITION & IMMUNE SYSTEM		R	13.35	2.63	1.47	8.95	3.33	5.03	6.16	21.86	35.52	192.53	117.81	134.43	28.25	
. DIABETES MELLITUS	250	#	0	33	20	19	52	134	138	418	625	2849	594	112	4994	1.02
		R	0.00	1.19	1.40	1.29	3.09	3.37	4.15	17.34	29.33	173.09	83.31	73.44	22.65	
BLOOD & BLOOD FORMING	280-289	#	1	121	37	19	47	50	181	95	125	298	247	132	1353	0.83
ORGANS		R	0.30	4.36	2.58	1.29	2.80	1.26	5.44	3.94	5.87	18.10	34.64	86.56	6.14	

#=# days; R=rate/1,000 persons (based on 1986 census); SMR= standardized morbidity ratio.

Source: Ontario Ministry of Health, Information Systems Division, 1992

Exhibit 3.1.5. Days Spent in Hospital by Hamilton-Wentworth Residents, by Age and by Discharge Diagnosis, 1990 (continued)

Diagnosis	ICD-9 Code	# R	Age Group (Years) < 1	1-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	TOTAL	SMR
MALES CONTINUED:																
MENTAL DISORDERS	290-319	#	0	24	39	930	1574	4603	2407	1970	11218	4824	8652	2565	38806	1.15
		R	0.00	0.86	2.72	63.05	93.61	115.86	72.30	81.71	526.42	293.07	1213.46	1681.97	175.98	
. PSYCHOSES	290-299	p	0	8	16	754	964	1504	694	987	10543	4487	7638	1950	29545	1.27
		R	0.00	0.29	1.12	51.12	57.33	37.86	20.85	40.94	494.74	272.60	1071.25	1278.69	133.98	
. NEUROTIC DISORDER	300	#	0	0	0	15	6	297	186	194	214	121	24	0	1057	0.55
		R	0.00	0.00	0.00	1.02	0.36	7.48	5.59	8.05	10.04	7.35	3.37	0.00	4.79	
. ALCOHOL DEPENDENCE SYNDROME	303	#	0	0	0	0	256	2182	1177	525	372	96	35	0	4643	1.78
		R	0.00	0.00	0.00	0.00	15.22	54.92	35.36	21.78	17.46	5.83	4.91	0.00	21.06	
. DRUG DEPENDENCE	304	#	0	0	0	29	55	68	14	29	20	0	0	0	215	0.39
		R	0.00	0.00	0.00	1.97	3.27	1.71	0.42	1.20	0.94	0.00	0.00	0.00	0.97	
. DEPRESSION	311	#	0	0	0	12	123	45	77	77	0	102	187	76	699	0.66
		R	0.00	0.00	0.00	0.81	7.31	1.13	2.31	3.19	0.00	6.20	26.23	49.84	3.17	
NERVOUS SYSTEM & SENSE ORGANS	320-389	#	84	303	2077	332	178	3901	359	4203	2450	5080	8078	718	27763	1.04
		R	25.49	10.91	145.04	22.51	10.59	98.19	10.78	174.33	114.97	308.63	1132.96	470.82	125.90	
CIRCULATORY SYSTEM	390-459	#	77	200	38	20	162	485	1753	8328	12048	16902	22934	8770	71717	1.07
		R	23.37	7.20	2.65	1.36	9.63	12.21	52.66	345.42	565.37	1026.85	3216.55	5750.82	325.23	
. HYPERTENSIVE DISEASE	401-405	#	0	6	0	13	15	40	43	158	137	385	6	3	806	0.96
		R	0.00	0.22	0.00	0.88	0.89	1.01	1.29	6.55	6.43	23.39	0.84	1.97	3.66	
. ALL ISCHEMIC	410-414	#	0	0	8	0	13	19	812	2203	4211	4669	4463	3055	19453	1.15
		R	0.00	0.00	0.56	0.00	0.77	0.48	24.39	91.37	197.61	283.66	625.95	2003.28	88.22	
. ACUTE MYOCARDIAL INFARCTION	410	#	0	0	0	0	13	15	425	887	1838	2266	1630	152	7226	1.10
		R	0.00	0.00	0.00	0.00	0.77	0.38	12.77	36.79	86.25	137.67	228.61	99.67	32.77	
. ALL OTHER ISCHEMIC HEART DISEASE	411-414	#	0	0	8	0	0	4	387	1316	2373	2403	2833	2903	12227	1.18
		R	0.00	0.00	0.56	0.00	0.00	0.10	11.63	54.58	111.36	145.99	397.34	1903.61	55.45	
. ALL OTHER HEART DISEASE	390-398; 415-429	#	68	29	30	7	28	132	505	1388	1829	3165	2928	1550	11659	0.99
		R	20.64	1.04	2.09	0.47	1.67	3.32	15.17	57.57	85.83	192.28	410.66	1016.39	52.87	
. CEREBROVASCULAR DISEASE	430-438	#	0	127	0	0	0	55	110	4092	4811	5971	12675	3831	31672	1.09
		R	0.00	4.57	0.00	0.00	0.00	1.38	3.30	169.72	225.76	362.76	1777.70	2512.13	143.63	
. BLOOD VESSEL DISEASE	450-459	#	9	38	0	0	106	239	283	487	1060	2712	2862	331	8127	0.95
		R	2.73	1.37	0.00	0.00	6.30	6.02	8.50	20.20	49.74	164.76	401.40	217.05	36.85	

#=# days; R=rate/1,000 persons (based on 1986 census); SMR = standardized morbidity ratio.

Source: Ontario Ministry of Health, Information Systems Division, 1992

Exhibit 3.1.5. Days Spent in Hospital by Hamilton-Wentworth Residents, by Age and by Discharge Diagnosis, 1990 (continued)

Diagnosis	ICD-9 Code	# R	Age Group (Years) < 1	1-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	TOTAL	SMR
MALES CONTINUED:																
RESPIRATORY DISEASE	460-519	#	636	1075	252	225	231	507	366	580	1784	3601	4673	2150	16080	0.66
		R	193.02	38.70	17.60	15.25	13.74	12.76	10.99	24.06	83.72	218.77	655.40	1409.84	72.92	
. PNEUMONIA	480-486	#	139	186	87	64	28	110	87	188	606	1063	2165	1149	5872	0.69
		R	42.19	6.70	6.08	4.34	1.67	2.77	2.61	7.80	28.44	64.58	303.65	753.44	26.63	
. COPD	490-496	#	69	248	91	5	8	60	33	148	573	1723	1807	554	5319	0.58
		R	20.94	8.93	6.35	0.34	0.48	1.51	0.99	6.14	26.89	104.68	253.44	363.28	24.12	
. ASTHMA	493	#	68	244	91	5	8	48	30	15	62	112	82	1	766	0.40
		R	20.64	8.78	6.35	0.34	0.48	1.21	0.90	0.62	2.91	6.80	11.50	0.66	3.47	
DIGESTIVE DISEASE	520-579	#	229	461	224	398	540	1788	2409	2866	4127	4816	3211	2190	23259	1.06
		R	69.50	16.59	15.64	26.98	32.11	45.00	72.36	118.87	193.66	292.59	450.35	1436.07	105.48	
. CHRONIC LIVER DISEASE AND CHIRRHOSIS	571	#	0	0	0	0	2	18	44	259	433	942	153	0	1851	1.25
		R	0.00	0.00	0.00	0.00	0.12	0.45	1.32	10.74	20.32	57.23	21.46	0.00	8.39	
GENITOURINARY DISEASE	580-629	#	37	207	45	148	88	674	512	592	2097	3479	3107	512	11498	0.90
		R	11.23	7.45	3.14	10.03	5.23	16.96	15.38	24.55	98.40	211.36	435.76	335.74	52.14	
DISEASES OF SKIN & SUBCUTANEOUS TISSUE	680-709	#	20	140	33	264	169	729	328	315	471	632	156	42	3299	0.92
		R	6.07	5.04	2.30	17.90	10.05	18.35	9.85	13.07	22.10	38.40	21.88	27.54	14.96	
MUSKULOSKELETAL & CONNECTIVE TISSUE	710-739	#	9	234	354	198	380	1022	1312	1216	2018	2040	1252	224	10259	0.85
		R	2.73	8.42	24.72	13.42	22.60	25.72	39.41	50.44	94.70	123.94	175.60	146.89	46.52	
. ARTHROPATHIES	710-719	#	8	111	84	61	134	269	330	391	1108	1290	881	48	4715	0.83
		R	2.43	4.00	5.87	4.14	7.97	6.77	9.91	16.22	51.99	78.37	123.56	31.48	21.38	
CONGENITAL ANOMALIES	740-759	#	949	389	65	100	36	103	66	71	55	0	17	0	1851	0.72
		R	288.01	14.00	4.54	6.78	2.14	2.59	1.98	2.94	2.58	0.00	2.38	0.00	8.39	
PERINATAL CONDITIONS	760-779	#	6770	5	0	0	0	0	0	0	0	0	0	0	6775	0.93
		R	2054.63	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.72	
ILL DEFINED CONDITIONS	780-799	#	235	182	65	101	130	366	775	700	1571	1703	1331	673	7832	0.79
		R	71.32	6.55	4.54	6.85	7.73	9.21	23.28	29.03	73.72	103.46	186.68	441.31	35.52	
. SYMPTOMS	780-789	#	182	179	61	101	129	352	773	690	1512	1376	1140	496	6991	0.89
		R	55.24	6.44	4.26	6.85	7.67	8.86	23.22	28.62	70.95	83.60	159.89	325.25	31.70	
. ILL DEFINED CAUSES	797-799	#	5	1	4	0	0	3	0	0	59	324	191	168	755	0.38
		R	1.52	0.04	0.28	0.00	0.00	0.08	0.00	0.00	2.77	19.68	26.79	110.16	3.42	
INJURIES & POISONING	800-999	#	80	711	718	1129	2069	2761	2655	2068	3479	3497	2911	1624	23702	1.02
		R	24.28	25.59	50.14	76.54	123.04	69.49	79.75	85.77	163.26	212.45	408.27	1064.92	107.48	

#=# days; R=rate/1,000 persons (based on 1986 census); SMR = standardized morbidity ratio.

Source: Ontario Ministry of Health, Information Systems Division, 1992

Exhibit 3.1.5. Days Spent in Hospital by Hamilton-Wentworth Residents, by Age and by Discharge Diagnosis, 1990 (continued)

Diagnosis	ICD-9 Code	# R	Age Group (Years)												TOTAL	SMR
			< 1	1-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+		
MALES CONTINUED:																
. FRACTURES/DISLOCATIONS	800-839	#	56	493	169	521	661	930	732	612	714	1689	1921	1109	9607	0.92
		R	17.00	17.75	11.80	35.32	39.31	23.41	21.99	25.38	33.51	102.61	269.42	727.21	43.57	
. HEAD INJURY	850-854	#	5	36	252	241	261	255	729	428	1231	185	84	25	3732	1.26
		R	1.52	1.30	17.60	16.34	15.52	6.42	21.90	17.75	57.77	11.24	11.78	16.39	16.92	
. BURNS	940-949	#	0	13	28	55	33	85	177	34	0	116	0	0	541	1.01
		R	0.00	0.47	1.96	3.73	1.96	2.14	5.32	1.41	0.00	7.05	0.00	0.00	2.45	
. POISONINGS	960-979	#	1	14	11	42	33	162	127	198	93	31	21	20	753	1.30
		R	0.30	0.50	0.77	2.85	1.96	4.08	3.81	8.21	4.36	1.88	2.95	13.11	3.41	
EXTERNAL CAUSES	E800-999	#	121	1043	905	1154	2541	3207	3379	3523	6915	11083	8397	5168	47436	1.02
(SUPPLEMENTARY CLASS)		R	36.72	37.54	63.20	78.24	151.12	80.72	101.50	146.12	324.50	673.33	1177.70	3388.85	215.11	
. MOTOR VEHICLE ACCIDENTS	E810-819	#	4	158	277	232	590	557	207	258	100	183	33	20	2619	0.60
		R	1.21	5.69	19.34	15.73	35.09	14.02	6.22	10.70	4.69	11.12	4.63	13.11	11.88	
. MOTOR VEHICLE NON-TRAFFIC	E820-825	#	0	0	1	45	0	32	8	19	10	2	0	0	117	0.32
		R	0.00	0.00	0.07	3.05	0.00	0.81	0.24	0.79	0.47	0.12	0.00	0.00	0.53	
. TRANSPORT ACCIDENTS	E800-807	#	0	35	68	23	6	26	10	23	9	40	24	0	264	0.72
	E826-848	R	0.00	1.26	4.75	1.56	0.36	0.65	0.30	0.95	0.42	2.43	3.37	0.00	1.20	
. PEDAL CYCLE ACCIDENTS	E826	#	0	35	21	20	6	12	8	23	2	28	24	0	179	0.89
		R	0.00	1.26	1.47	1.36	0.36	0.30	0.24	0.95	0.09	1.70	3.37	0.00	0.81	
. ACCIDENTAL POISONINGS	E850-869	#	1	18	0	3	6	18	24	13	54	15	14	1	167	0.53
		R	0.30	0.65	0.00	0.20	0.36	0.45	0.72	0.54	2.53	0.91	1.96	0.66	0.76	
. MISADVENTURES	E870-879	#	42	335	114	255	328	695	749	1388	4350	4668	2999	439	16362	1.19
DURING MEDICAL CARE		R	12.75	12.06	7.96	17.29	19.51	17.49	22.50	57.57	204.13	283.60	420.62	287.87	74.20	
. ACCIDENTAL FALLS	E880-888	#	56	287	118	128	187	389	968	440	1096	3134	4194	4010	15007	1.06
		R	17.00	10.33	8.24	8.68	11.12	9.79	29.08	18.25	51.43	190.40	588.22	2629.51	68.05	
. OTHER ACCIDENTS	E890-928	#	7	154	99	228	164	383	520	421	372	1155	310	123	3936	0.96
		R	2.12	5.54	6.91	15.46	9.75	9.64	15.62	17.46	17.46	70.17	43.48	80.66	17.85	
. SUICIDE	E950-959	#	0	0	11	76	271	285	179	288	84	137	202	20	1553	1.23
		R	0.00	0.00	0.77	5.15	16.12	7.17	5.38	11.95	3.94	8.32	28.33	13.11	7.04	
. HOMICIDE & INJURY	E960-969	#	1	2	7	118	73	348	90	345	31	0	0	0	1015	1.29
ON OTHERS		R	0.30	0.07	0.49	8.00	4.34	8.76	2.70	14.31	1.45	0.00	0.00	0.00	4.60	
MAIN CAUSE TOTALS	001-999	#	9419	4726	4336	4181	6009	18197	14330	25535	47718	58577	64443	23234	280705	0.97
MALES		R	2858.57	170.12	302.79	283.46	357.36	458.02	430.46	1059.10	2239.23	3558.75	9038.29	5235.41	1272.95	

#=# days; R=rate/1,000 persons (based on 1986 census); SMR = standardized morbidity ratio.

Source: Ontario Ministry of Health, Information Systems Division, 1992

Exhibit 3.1.5. Days Spent in Hospital by Hamilton-Wentworth Residents, by Age and by Discharge Diagnosis, 1990 (continued)

Diagnosis	ICD-9 Code	# R	Age Group (Years) < 1	1-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	TOTAL	SMR
FEMALES:																
INFECTIOUS DISEASES	001-139	#	168	154	42	103	79	301	154	43	348	463	762	599	3216	0.86
		R	55.08	5.78	3.09	7.16	4.63	7.55	4.43	1.80	15.45	22.92	67.61	154.58	13.91	
. AIDS	042-044	#	0	0	0	0	5	0	0	0	0	0	0	0	5	0.08
		R	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	
NEOPLASMS	140-239	#	27	116	397	110	309	1389	2240	3684	4795	6477	9344	2867	31755	0.99
		R	8.85	4.35	29.22	7.64	18.12	34.83	64.48	153.92	212.83	320.64	829.10	739.87	137.37	
. COLORECTAL	153-154	#	0	0	0	0	0	9	61	176	353	904	926	616	3045	0.77
		R	0.00	0.00	0.00	0.00	0.00	0.23	1.76	7.35	15.67	44.75	82.17	158.97	13.17	
. LIVER CANCER	155	#	0	0	0	0	0	0	0	0	18	92	0	0	110	0.59
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.80	4.55	0.00	0.00	0.48	
. TRACHEA, BRONCHUS, LUNG	162	#	0	0	0	0	0	0	31	205	363	656	1985	28	3268	1.09
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.89	8.56	16.11	32.48	176.13	7.23	14.14	
. SKIN	172-173	#	0	0	0	0	0	14	33	8	81	51	317	20	524	1.96
		R	0.00	0.00	0.00	0.00	0.00	0.35	0.95	0.33	3.60	2.52	28.13	5.16	2.27	
. FEMALE BREAST CANCER	174	#	0	0	0	0	3	19	329	467	626	523	2428	140	4535	1.23
		R	0.00	0.00	0.00	0.00	0.18	0.48	9.47	19.51	27.79	25.89	215.44	36.13	19.62	
. CERVICAL	180	#	0	0	0	0	11	152	48	49	94	29	63	16	462	0.73
		R	0.00	0.00	0.00	0.00	0.64	3.81	1.38	2.05	4.17	1.44	5.59	4.13	2.00	
. LYMPHATIC & HEMATOPOIETIC TISSUE	200-208	#	0	52	0	30	190	429	172	195	506	940	354	141	3009	1.00
		R	0.00	1.95	0.00	2.08	11.14	10.76	4.95	8.15	22.46	46.53	31.41	36.39	13.02	
. LEUKEMIA	204-208	#	0	52	0	28	175	123	99	0	142	114	139	16	888	0.82
		R	0.00	1.95	0.00	1.95	10.26	3.08	2.85	0.00	6.30	5.64	12.33	4.13	3.84	
. BENIGN NEOPLASMS	210-229	#	19	16	9	42	67	414	1154	907	253	383	157	546	3967.00	1.00
		R	6.23	0.60	0.66	2.92	3.93	10.38	33.22	37.89	11.23	18.96	13.93	140.90	17.16	
ENDOCRINE, METABOLISM, NUTRITION, IMMUNE SYSTEM	240-279	#	5	19	74	80	245	302	374	307	1572	1221	2116	3371	9686	1.01
		R	1.64	0.71	5.45	5.56	14.37	7.57	10.77	12.83	69.77	60.45	187.76	869.94	41.90	
. DIABETES MELLITUS	250	#	0	7	26	15	43	35	199	147	1400	412	1189	2566	6039	0.99
		R	0.00	0.26	1.91	1.04	2.52	0.88	5.73	6.14	62.14	20.40	105.50	662.19	26.12	
BLOOD & BLOOD FORMING ORGANS	280-289	#	5	29	27	28	65	56	29	29	106	346	631	738	2089	0.87
		R	1.64	1.09	1.99	1.95	3.81	1.40	0.83	1.21	4.70	17.13	55.99	190.45	9.04	

#=# days; R=rate/1,000 persons (based on 1986 census); SMR= standardized morbidity ratio.

Source: Ontario Ministry of Health, Information Systems Division, 1992

Exhibit 3.1.5. Days Spent in Hospital by Hamilton-Wentworth Residents, by Age and by Discharge Diagnosis, 1990 (continued)

Diagnosis	ICD-9 Code	# R	Age Group (Years) < 1	1-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	TOTAL	SMR
FEMALES CONTINUED:																
MENTAL DISORDERS	290-319	#	0	1	272	903	1091	3504	2473	2256	1929	5635	10883	16105	45052	0.94
		R	0.00	0.04	20.02	62.75	63.97	87.85	71.19	94.26	85.62	278.96	965.66	4156.13	194.90	
. PSYCHOSES	290-299	#	0	0	80	361	699	2296	1278	1323	1218	4566	10157	15746	37724	1.21
		R	0.00	0.00	5.89	25.09	40.99	57.57	36.79	55.27	54.06	226.04	901.24	4063.48	163.19	
. NEUROTIC DISORDER	300	#	0	0	19	50	73	131	283	228	147	498	117	0	1546	0.37
		R	0.00	0.00	1.40	3.47	4.28	3.28	8.15	9.53	6.52	24.65	10.38	0.00	6.69	
. ALCOHOL DEPENDENCE SYNDROME	303	#	0	0	0	0	70	220	180	230	201	15	0	0	916	1.04
		R	0.00	0.00	0.00	0.00	4.10	5.52	5.18	9.61	8.92	0.74	0.00	0.00	3.96	
. DRUG DEPENDENCE	304	#	0	0	0	0	12	103	72	84	0	15	9	0	295	0.74
		R	0.00	0.00	0.00	0.00	0.70	2.58	2.07	3.51	0.00	0.74	0.80	0.00	1.28	
. DEPRESSION	311	#	0	0	0	131	83	234	277	359	248	241	279	21	1873	0.68
		R	0.00	0.00	0.00	9.10	4.87	5.87	7.97	15.00	11.01	11.93	24.76	5.42	8.10	
NERVOUS SYSTEM & SENSE ORGANS	320-389	#	109	122	24	168	264	361	2027	2380	4141	3331	3283	2198	18408	0.55
		R	35.74	4.58	1.77	11.67	15.48	9.05	58.35	99.44	183.80	164.90	291.30	567.23	79.63	
CIRCULATORY SYSTEM	390-459	#	48	28	38	324	204	449	563	4805	7796	19480	33097	30125	96957	1.12
		R	15.74	1.05	2.80	22.52	11.96	11.26	16.21	200.75	346.03	964.36	2936.73	7774.19	419.44	
. HYPERTENSIVE DISEASE	401-405	#	0	0	0	0	0	62	22	67	47	233	228	85	744	0.47
		R	0.00	0.00	0.00	0.00	0.00	1.55	0.63	2.80	2.09	11.53	20.23	21.94	3.22	
. ALL ISCHEMIC	410-414	#	0	0	0	0	0	29	139	433	1775	5483	3963	3042	14864	0.89
		R	0.00	0.00	0.00	0.00	0.00	0.73	4.00	18.09	78.78	271.44	351.64	785.03	64.30	
. ACUTE MYOCARDIAL INFARCTION	410	#	0	0	0	0	0	29	30	131	745	1582	2008	785	5310	1.07
		R	0.00	0.00	0.00	0.00	0.00	0.73	0.86	5.47	33.07	78.32	178.17	202.58	22.97	
. ALL OTHER ISCHEMIC HEART DISEASE	411-414	#	0	0	0	0	0	0	109	302	1030	3901	1955	2257	9554	0.81
		R	0.00	0.00	0.00	0.00	0.00	0.00	3.14	12.62	45.72	193.12	173.47	582.45	41.33	
. ALL OTHER HEART DISEASE	390-398	#	48	13	38	36	29	121	124	466	910	2595	5339	3965	13684	0.90
	415-429	R	15.74	0.49	2.80	2.50	1.70	3.03	3.57	19.47	40.39	128.47	473.74	1023.23	59.20	
. CEREBROVASCULAR DISEASE	430-438	#	0	15	0	274	133	47	65	3450	4515	10373	22293	21494	62659	1.47
		R	0.00	0.56	0.00	19.04	7.80	1.18	1.87	144.14	200.40	513.51	1978.08	5546.84	271.06	
. BLOOD VESSEL DISEASE	440-459	#	0	0	0	14	42	190	213	389	549	796	1274	1539	5006	0.48
		R	0.00	0.00	0.00	0.97	2.46	4.76	6.13	16.25	24.37	39.41	113.04	397.16	21.66	
RESPIRATORY DISEASE	460-519	#	384	774	193	339	247	538	555	575	1187	3503	8109	2539	18943	0.81
		#	125.90	29.05	14.21	23.56	14.48	13.49	15.98	24.02	52.69	173.42	719.52	655.23	81.95	

#=# days; R=rate/1,000 persons (based on 1986 census); SMR= standardized morbidity ratio.

Source: Ontario Ministry of Health, Information Systems Division, 1992

Exhibit 3.1.5. Days Spent in Hospital by Hamilton-Wentworth Residents, by Age and by Discharge Diagnosis, 1990 (continued)

Diagnosis	ICD-9 Code	# R	< 1	1-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	TOTAL	SMR
FEMALES CONTINUED:																
. PNEUMONIA	480-486	#	83	163	49	35	43	133	147	205	496	1198	4467	1656	8675	0.94
		R	27.21	6.12	3.61	2.43	2.52	3.33	4.23	8.56	22.02	59.31	396.36	427.35	37.53	
. COPD	490-496	#	37	119	8	69	31	132	190	256	546	1879	3215	406	6888	0.83
		R	12.13	4.47	0.59	4.79	1.82	3.31	5.47	10.70	24.23	93.02	285.27	104.77	29.80	
. ASTHMA	493	#	33	118	8	69	27	120	82	188	86	340	272	73	1416	0.57
		R	10.82	4.43	0.59	4.79	1.58	3.01	2.36	7.85	3.82	16.83	24.13	18.84	6.13	
DIGESTIVE DISEASE	520-579	#	440	312	210	422	633	2244	2191	2946	3815	4964	4194	2766	25137	0.98
		R	144.26	11.71	15.46	29.33	37.12	56.26	63.07	123.08	169.33	245.74	372.14	713.81	108.74	
. CHRONIC LIVER DISEASE & CIRRHOSIS	571	#	0	0	0	0	0	4	140	162	48	297	83	15	749	0.81
		R	0.00	0.00	0.00	0.00	0.00	0.10	4.03	6.77	2.13	14.70	7.36	3.87	3.24	
GENITOURINARY DISEASE	580-629	#	47	97	176	317	632	2358	2874	1866	1608	1663	1451	796	13885	0.85
		R	15.41	3.64	12.96	22.03	37.06	59.12	82.73	77.96	71.37	82.33	128.75	205.42	60.07	
COMPLICATIONS OF PREGNANCY	630-648	#	0	0	24	1939	6015	20777	2837	4	0	0	0	0	31596	1.05
	651-676	R	0.00	0.00	1.77	134.75	352.68	520.92	81.66	0.17	0.00	0.00	0.00	0.00	136.68	
NORMAL DELIVERY	650	#	0	0	0	212	619	1745	175	0	0	0	0	0	2751	0.58
		R	0.00	0.00	0.00	14.73	36.29	43.75	5.04	0.00	0.00	0.00	0.00	0.00	11.90	
DISEASES OF SKIN & SUBCUTANEOUS TISSUE	680-709	#	33	100	14	41	60	179	105	170	294	466	916	125	2503	0.70
		R	10.82	3.75	1.03	2.85	3.52	4.49	3.02	7.10	13.05	23.07	81.28	32.26	10.83	
MUSKULOSKELETAL & CONNECTIVE TISSUE	710-739	#	9	103	210	200	232	1079	1123	1907	3027	4359	3822	1426	17497	0.79
		R	2.95	3.87	15.46	13.90	13.60	27.05	32.33	79.67	134.35	215.79	339.13	368.00	75.69	
. ARTHROPATHIES	710-719	#	9	56	27	83	96	489	351	1114	1705	3227	1991	1001	10149	0.79
		R	2.95	2.10	1.99	5.77	5.63	12.26	10.10	46.54	75.68	159.75	176.66	258.32	43.90	
CONGENITAL ANOMALIES	740-759	#	644	284	86	64	44	83	547	78	84	31	21	0	1966	0.73
		R	211.15	10.66	6.33	4.45	2.58	2.08	15.75	3.26	3.73	1.53	1.86	0.00	8.50	
PERINATAL CONDITIONS	760-779	#	6818	0	0	0	0	0	0	0	0	0	0	0	6818	1.17
		R	2235.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29.49	
ILL DEFINED CONDITIONS	780-799	#	290	217	108	164	228	687	965	580	1123	1306	1787	1913	9368	0.63
		R	95.08	8.14	7.95	11.40	13.37	17.22	27.78	24.23	49.84	64.65	158.56	493.68	40.53	
. SYMPTOMS	780-789	#	228	217	108	160	225	655	857	556	1070	1025	1373	851	7325	0.73
		R	74.75	8.14	7.95	11.12	13.19	16.42	24.67	23.23	47.49	50.74	121.83	219.61	31.69	
. ILL DEFINED CAUSES	797-799	#	0	0	0	0	3	22	92	9	52	281	392	1045	1896	0.41
		R	0.00	0.00	0.00	0.00	0.18	0.55	2.65	0.38	2.31	13.91	34.78	269.68	8.20	

#=# days; R=rate/1,000 persons (based on 1986 census); SMR= standardized morbidity ratio.

Source: Ontario Ministry of Health, Information Systems Division, 1992

Exhibit 3.1.5. Days Spent in Hospital by Hamilton-Wentworth Residents, by Age and by Discharge Diagnosis, 1990 (continued)

Diagnosis	ICD-9 Code	# R	Age Group (Years) < 1	1-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	TOTAL	SMR
FEMALES CONTINUED:																
INJURIES & POISONING	800-999	#	36	270	145	844	1718	1537	5435	1423	1980	4330	9440	7343	34501	1.16
		R	11.80	10.13	10.67	58.65	100.73	38.54	156.45	59.45	87.88	214.36	837.62	1894.97	149.25	
. FRACTURES/DISLOCATIONS	800-839	#	5	132	56	57	106	530	333	747	1154	2215	7472	6844	19651	1.04
		R	1.64	4.95	4.12	3.96	6.22	13.29	9.59	31.21	51.22	109.65	663.00	1766.19	85.01	
. HEAD INJURY	850-854	#	11	19	2	594	49	161	4	23	108	345	188	48	1552	1.20
		R	3.61	0.71	0.15	41.28	2.87	4.04	0.12	0.96	4.79	17.08	16.68	12.39	6.71	
. BURNS	940-949	#	10	15	0	0	6	30	1	16	2	67	0	0	147	0.48
		R	3.28	0.56	0.00	0.00	0.35	0.75	0.03	0.67	0.09	3.32	0.00	0.00	0.64	
. POISONINGS	960-979	#	1	10	38	67	30	159	149	106	60	162	79	29	890	0.84
		R	0.33	0.38	2.80	4.66	1.76	3.99	4.29	4.43	2.66	8.02	7.01	7.48	3.85	
EXTERNAL CAUSES	E800-999	#	421	364	275	1283	2465	3021	6705	3112	6431	10035	16151	13068	63331	1.08
(SUPPLEMENTARY CLASS)		R	138.03	13.66	20.24	89.16	144.53	75.74	193.01	130.02	285.44	496.78	1433.10	3372.39	273.97	
. MOTOR VEHICLE CRASHES	E810-819	#	0	76	29	558	268	399	124	80	85	158	322	60	2159	0.85
		R	0.00	2.85	2.13	38.78	15.71	10.00	3.57	3.34	3.77	7.82	28.57	15.48	9.34	
. MOTOR VEHICLE	E820-825	#	0	0	0	4	0	11	11	1	21	0	19	0	67	0.54
(NON-TRAFFIC)		R	0.00	0.00	0.00	0.28	0.00	0.28	0.32	0.04	0.93	0.00	1.69	0.00	0.29	
. TRANSPORT ACCIDENTS	E800-807	#	0	1	13	19	22	17	33	13	0	0	0	0	118	0.42
	E826-848	R	0.00	0.04	0.96	1.32	1.29	0.43	0.95	0.54	0.00	0.00	0.00	0.00	0.51	
. PEDAL CYCLE ACCIDENTS	E826	#	0	1	12	1	3	5	6	10	0	0	0	0	38	0.37
		R	0.00	0.04	0.88	0.07	0.18	0.13	0.17	0.42	0.00	0.00	0.00	0.00	0.16	
. ACCIDENTAL POISONINGS	E850-869	#	1	15	0	1	2	13	25	19	31	66	20	4	197	0.57
		R	0.33	0.56	0.00	0.07	0.12	0.33	0.72	0.79	1.38	3.27	1.77	1.03	0.85	
. MISADVENTURES	E870-879	#	393	81	94	140	334	864	1120	1499	2310	4190	3216	915	15156	1.11
IN MEDICAL CARE		R	128.85	3.04	6.92	9.73	19.58	21.66	32.24	62.63	102.53	207.43	285.36	236.13	65.56	
. ACCIDENTAL FALLS	E880-888	#	16	86	29	39	43	153	239	622	3017	3652	11079	11301	30276	1.10
		R	5.25	3.23	2.13	2.71	2.52	3.84	6.88	25.99	133.91	180.79	983.05	2916.39	130.97	
. OTHER ACCIDENTS	E890-928	#	10	68	15	37	174	165	113	80	203	232	212	32	1341	0.34
		R	3.28	2.55	1.10	2.57	10.20	4.14	3.25	3.34	9.01	11.49	18.81	8.26	5.80	
. SUICIDE	E950-959	#	0	0	50	168	249	522	194	500	123	160	126	0	2092	1.13
		R	0.00	0.00	3.68	11.67	14.60	13.09	5.58	20.89	5.46	7.92	11.18	0.00	9.05	
. HOMICIDE & INJURY	960-969	#	0	5	0	296	24	198	5	2	0	0	0	0	530	2.78
ON OTHERS		R	0.00	0.19	0.00	20.57	1.41	4.96	0.14	0.08	0.00	0.00	0.00	0.00	2.29	
MAIN CAUSE TOTALS	001-999	#	9063	2626	2040	6258	12685	37589	24667	23053	33805	57575	89856	72911	372128	0.94
FEMALES		R	2971.48	98.56	150.17	434.89	743.77	942.43	710.05	963.15	1500.44	2850.25	7973.03	8815.74	1609.83	

Source: Ontario Ministry of Health, Information Systems Division, 1992 **#=# days; R=rate/1,000 persons; SMR=standardized morbidity ratio.**

Exhibit 3.1.5. Days Spent in Hospital by Hamilton-Wentworth Residents, by Age and by Discharge Diagnosis, 1990 (continued)

Diagnosis	ICD-9 Code	# R	Age Group (Years)												TOTAL	SMR
			< 1	1-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+		
TOTAL POPULATION:																
INFECTIOUS DISEASES	001-139	#	324	400	100	203	150	958	420	227	709	688	1202	1307	6688	0.80
		R	51.06	7.35	3.58	6.97	4.43	12.03	6.17	4.72	16.17	18.77	65.33	242.04	14.81	
. AIDS	042-044	#	0	14	0	0	5	507	86	29	50	0	22	0	713	0.67
		R	0.00	0.26	0.00	0.00	0.15	6.37	1.26	0.60	1.14	0.00	1.20	0.00	1.58	
NEOPLASMS	140-239	#	119	471	707	195	587	1740	2976	5504	9952	14788	15938	5588	58565	0.94
		R	18.75	8.65	25.34	6.69	17.33	21.86	43.75	114.56	227.01	403.38	866.20	1034.81	129.66	
. COLORECTAL	153-154	#	0	0	0	0	0	9	164	312	877	2361	2190	1889	7802	0.99
		R	0.00	0.00	0.00	0.00	0.00	0.11	2.41	6.49	20.00	64.40	119.02	349.81	17.27	
. LIVER CANCER	155	#	0	0	0	0	0	0	0	2	18	117	30	0	167	0
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.41	3.19	1.63	0.00	0.37	
. TRACHEA, BRONCH, LUNG	162	#	0	0	0	0	0	0	31	566	1427	2055	2827	86	6992	0.88
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.46	11.78	32.55	56.06	153.64	15.93	15.48	
. SKIN	172-173	#	0	0	0	0	0	15	76	22	108	101	366	26	714	1.09
		R	0.00	0.00	0.00	0.00	0.00	0.19	1.12	0.46	2.46	2.76	19.89	4.81	1.58	
. FEMALE BREAST CANCER	174	#	0	0	0	0	3	19	329	467	626	523	2428	140	4535	1.24
		R	0.00	0.00	0.00	0.00	0.09	0.24	4.84	9.72	14.28	14.27	131.96	25.93	10.04	
. CERVICAL	180	#	0	0	0	0	11	152	48	49	94	29	63	16	462	0.74
		R	0.00	0.00	0.00	0.00	0.32	1.91	0.71	1.02	2.14	0.79	3.42	2.96	1.02	
. PROSTATE	185	#	0	0	0	0	0	0	0	0	538	1274	1364	669	3845	0.96
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.27	34.75	74.13	123.89	8.51	
. LYMPHATIC & HEMATOPOIETIC TISSUE	200-208	#	68	259	197	88	305	625	282	438	747	1556	813	444	5822	0.94
		R	10.72	4.76	7.06	3.02	9.01	7.85	4.15	9.12	17.04	42.44	44.18	82.22	12.89	
. LEUKEMIA	204-208	#	68	218	154	28	175	303	169	158	177	376	429	168	2423	1.05
		R	10.72	4.01	5.52	0.96	5.17	3.81	2.48	3.29	4.04	10.26	23.32	31.11	5.36	
. BENIGN NEOPLASMS	210-229	#	19	25	26	54	106	448	1224	992	318	517	350	601	4680	0.95
		R	2.99	0.46	0.93	1.85	3.13	5.63	17.99	20.65	7.25	14.10	19.02	111.30	10.36	
ENDOCRINE, METABOLISM, NUTRITION & IMMUNE SYSTEM	240-279	#	49	92	95	212	301	502	579	834	2329	4390	2956	3576	15915	0.99
		R	7.72	1.69	3.40	7.28	8.89	6.31	8.51	17.36	53.13	119.75	160.65	662.22	35.24	
. DIABETES MELLITUS	250	#	0	40	46	34	95	169	337	565	2025	3261	1783	2678	11033	1.00
		R	0.00	0.73	1.65	1.17	2.80	2.12	4.95	11.76	46.19	88.95	96.90	495.93	24.43	
BLOOD & BLOOD FORMING ORGANS	280-289	#	6	150	64	47	112	106	210	124	231	644	878	870	3442	0.86
		R	0.95	2.76	2.29	1.61	3.31	1.33	3.09	2.58	5.27	17.57	47.72	161.11	7.62	

#=# days; R=rate/1,000 persons (based on 1986 census); SMR = standardized morbidity ratio.

Source: Ontario Ministry of Health, Information Systems Division, 1992

Exhibit 3.1.5. Days Spent in Hospital by Hamilton-Wentworth Residents, by Age and by Discharge Diagnosis, 1990 (continued)

Diagnosis	ICD-9 Code	# R	Age Group (Years)												TOTAL	SMR
			< 1	1-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+		
TOTAL POPULATION CONTINUED:																
MENTAL DISORDERS	290-319	#	0	25	311	1833	2665	8107	4880	4226	13147	10459	19535	18670	83858	1.03
		R	0.00	0.46	11.14	62.90	78.68	101.83	71.73	87.96	299.89	285.30	1061.68	3457.41	185.66	
. PSYCHOSES	290-299	#	0	8	96	1115	1663	3800	1972	2310	11761	9053	17795	17696	67269	1.24
		R	0.00	0.15	3.44	38.26	49.10	47.73	28.99	48.08	268.27	246.94	967.12	3277.04	148.93	
. NEUROTIC DISORDER	300	#	0	0	19	65	79	428	469	422	361	619	141	0	2603	0.43
		R	0.00	0.00	0.68	2.23	2.33	5.38	6.89	8.78	8.23	16.88	7.66	0.00	5.76	
. ALCOHOL DEPENDENCE	303	#	0	0	0	0	326	2402	1357	755	573	111	35	0	5559	1.59
		R	0.00	0.00	0.00	0.00	9.63	30.17	19.95	15.71	13.07	3.03	1.90	0.00	12.31	
. DRUG DEPENDENCE	304	#	0	0	0	29	67	171	86	113	20	15	9	0	510	0.54
		R	0.00	0.00	0.00	1.00	1.98	2.15	1.26	2.35	0.46	0.41	0.49	0.00	1.13	
. DEPRESSION	311	#	0	0	0	143	206	279	354	436	248	343	466	97	2572	0.68
		R	0.00	0.00	0.00	4.91	6.08	3.50	5.20	9.07	5.66	9.36	25.33	17.96	5.69	
NERVOUS SYSTEM & SENSE ORGANS	320-389	#	193	425	2101	500	442	4262	2386	6583	6591	8411	11361	2916	46171	0.77
		R	30.42	7.81	75.29	17.16	13.05	53.53	35.07	137.02	150.34	229.43	617.45	540.00	102.22	
CIRCULATORY SYSTEM	390-459	#	125	228	76	344	366	934	2316	13133	19844	36382	56031	38895	168674	1.09
		R	19.70	4.19	2.72	11.81	10.81	11.73	34.04	273.35	452.65	992.42	3045.16	7203	373.44	
. HYPERTENSIVE DISEASE	401-405	#	0	6	0	13	15	102	65	225	184	618	234	88	1550	0.64
		R	0.00	0.11	0.00	0.45	0.44	1.28	0.96	4.68	4.20	16.86	12.72	16.30	3.43	
. ALL ISCHEMIC	410-414	#	0	0	8	0	13	48	951	2636	5986	10152	8426	6097	34317	1.02
		R	0.00	0.00	0.29	0.00	0.38	0.60	13.98	54.87	136.54	276.92	457.93	1129.07	75.98	
. ACUTE MYOCARDIAL INFARCTION	410	#	0	0	0	0	13	44	455	1018	2583	3848	3638	937	12536.00	1.08
		R	0.00	0.00	0.00	0.00	0.38	0.55	6.69	21.19	58.92	104.96	197.72	173.52	27.75	
. ALL OTHER ISCHEMIC HEART DISEASE	411-414	#	0	0	8	0	0	4	496	1618	3403	6304	4788	5160	21781	0.98
		R	0.00	0.00	0.29	0.00	0.00	0.05	7.29	33.68	77.62	171.96	260.22	955.56	48.22	
. ALL OTHER HEART DISEASE	390-398	#	116	42	68	43	57	253	629	1854	2739	5760	8267	5515	25343	0.94
	415-429	R	18.28	0.77	2.44	1.48	1.68	3.18	9.25	38.59	62.48	157.12	449.29	1021.30	56.11	
. CEREBROVASCULAR DISEASE	430-438	#	0	142	0	274	133	102	175	7542	9326	16344	34968	25325	94331	1.31
		R	0.00	2.61	0.00	9.40	3.93	1.28	2.57	156.98	212.73	445.83	1900.43	4689.81	208.85	
. BLOOD VESSEL DISEASE	440-459	#	9	38	0	14	148	429	496	876	1609	3508	4136	1870	13133	0.69
		R	1.42	0.70	0.00	0.48	4.37	5.39	7.29	18.23	36.70	95.69	224.78	346.30	29.08	
RESPIRATORY DISEASE	460-519	#	1020	1849	445	564	478	1045	921	1155	2971	7104	12782	4689	35023	0.73
		R	160.76	33.97	15.95	19.35	14.11	13.13	13.54	24.04	67.77	193.78	694.67	868.33	77.54	

#=# days; R=rate/1,000 persons (based on 1986 census); SMR = standardized morbidity ratio.

Source: Ontario Ministry of Health, Information Systems Division, 1992

Exhibit 3.1.5. Days Spent in Hospital by Hamilton-Wentworth Residents, by Age and by Discharge Diagnosis, 1990 (continued)

Diagnosis	ICD-9 Code	# R	Age Group (Years) < 1	1-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	TOTAL	SMR
TOTAL POPULATION CONTINUED:																
. PNEUMONIA	480-486	#	222	349	136	99	71	243	234	393	1102	2261	6632	2805	14547	0.82
		R	34.99	6.41	4.87	3.40	2.10	3.05	3.44	8.18	25.14	61.67	360.43	519.44	32.21	
. COPD	490-496	#	106	367	99	74	39	192	223	404	1119	3602	5022	960	12207	0.69
		R	16.71	6.74	3.55	2.54	1.15	2.41	3.28	8.41	25.52	98.25	272.93	177.78	27.03	
. ASTHMA	493	#	101	362	99	74	35	168	112	203	148	452	354	74	2182	0.50
		R	15.92	6.65	3.55	2.54	1.03	2.11	1.65	4.23	3.38	12.33	19.24	13.70	4.83	
DIGESTIVE DISEASE	520-579	#	669	773	434	820	1173	4032	4600	5812	7942	9780	7405	4956	48396	1.02
		R	105.44	14.20	15.55	28.14	34.63	50.64	67.62	120.97	181.16	266.78	402.45	917.78	107.15	
. CHRONIC LIVER DISEASE & CIRRHOSIS	571	#	0	0	0	0	2	22	184	421	481	1239	236	15	2600	1.08
		R	0.00	0.00	0.00	0.00	0.06	0.28	2.70	8.76	10.97	33.80	12.83	2.78	5.76	
GENITOURINARY DISEASE	580-629	#	84	304	221	465	720	3032	3386	2458	3705	5142	4558	1308	25383	0.87
		R	13.24	5.59	7.92	15.96	21.26	38.08	49.77	51.16	84.51	140.26	247.72	242.22	56.20	
COMPLICATIONS OF PREGNANCY	630-648, 651	#	0	0	24	1939	6015	20777	2837	4	0	0	0	0	31596	1.05
		R	0.00	0.00	0.86	66.54	177.59	260.97	41.70	0.08	0.00	0.00	0.00	0.00	69.95	
NORMAL DELIVERY	650	#	0	0	0	212	619	1745	175	0	0	0	0	0	2751	0.58
		R	0.00	0.00	0.00	7.28	18.28	21.92	2.57	0.00	0.00	0.00	0.00	0.00	6.09	
DISEASES OF SKIN & SUBCUTANEOUS TISSUE	680-709	#	53	240	47	305	229	908	433	485	765	1098	1072	167	5802	0.81
		R	8.35	4.41	1.68	10.47	6.76	11.40	6.36	10.09	17.45	29.95	58.26	30.93	12.85	
MUSKULOSKELETAL & CONNECTIVE TISSUE	710-739	#	18	337	564	398	612	2101	2435	3123	5045	6399	5074	1650	27756	0.81
		R	2.84	6.19	20.21	13.66	18.07	26.39	35.79	65.00	115.08	174.55	275.76	305.56	61.45	
. ARTHROPATHIES	710-719	#	17	167	111	144	230	758	681	1505	2813	4517	2872	1049	14864	0.81
		R	2.68	3.07	3.98	4.94	6.79	9.52	10.01	31.32	64.17	123.21	156.09	194.26	32.91	
CONGENITAL ANOMALIES	740-759	#	1593	673	151	164	80	186	613	149	139	31	38	0	3817	0.72
		R	251.06	12.37	5.41	5.63	2.36	2.34	9.01	3.10	3.17	0.85	2.07	0.00	8.45	
PERINATAL CONDITIONS	760-779	#	13588	5	0	0	0	0	0	0	0	0	0	0	13593	1.04
		R	2141.53	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.09	
ILL DEFINED CONDITIONS	780-799	#	525	399	173	265	358	1053	1740	1280	2694	3009	3118	2586	17200	0.69
		R	82.74	7.33	6.20	9.09	10.57	13.23	25.58	26.64	61.45	82.08	169.46	478.89	38.08	
. SYMPTOMS	780-789	#	410	396	169	261	354	1007	1630	1246	2582	2401	2513	1347	14316	0.80
		R	64.62	7.28	6.06	8.96	10.45	12.65	23.96	25.93	58.90	65.49	136.58	249.44	31.70	
. ILL DEFINED CAUSES	797-799	#	5	1	4	0	3	25	92	9	111	605	583	1213	2651	0.40
		R	0.79	0.02	0.14	0.00	0.09	0.31	1.35	0.19	2.53	16.50	31.68	224.63	5.87	

#=# days; R=rate/1,000 persons (based on 1986 census); SMR = standardized morbidity ratio.

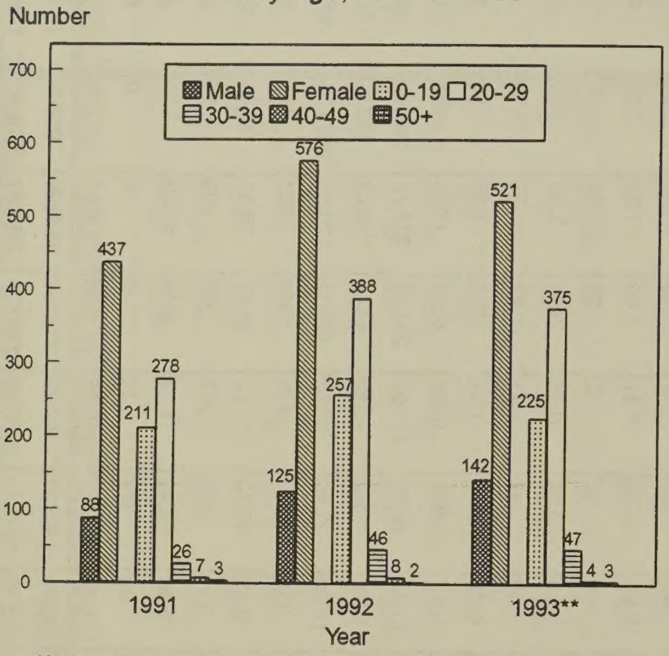
Source: Ontario Ministry of Health, Information Systems Division, 1992

Exhibit 3.1.5. Days Spent in Hospital by Hamilton-Wentworth Residents, by Age and by Discharge Diagnosis, 1990 (continued)

Diagnosis	ICD-9 Code	# R	Age Group (Years) < 1	1-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	TOTAL	SMR
TOTAL POPULATION CONTINUED:																
INJURIES & POISONING	800-999	#	116	981	863	1973	3787	4298	8090	3491	5459	7827	12351	8967	58203	1.10
		R	18.28	18.02	30.93	67.71	111.81	53.98	118.92	72.66	124.52	213.50	671.25	1660.56	128.86	
. FRACTURES/DISLOCATIONS	800-839	#	61	625	225	578	767	1460	1065	1359	1868	3904	9393	7953	29258	1.00
		R	9.61	11.48	8.06	19.84	22.65	18.34	15.65	28.29	42.61	106.49	510.49	1472.78	64.78	
. HEAD INJURY	850-854	#	16	55	254	835	310	416	733	451	1339	530	272	73	5284	1.24
		R	2.52	1.01	9.10	28.65	9.15	5.23	10.77	9.39	30.54	14.46	14.78	13.52	11.70	
. BURNS	940-949	#	10	28	28	55	39	115	178	50	2	183	0	0	688	0.82
		R	1.58	0.51	1.00	1.89	1.15	1.44	2.62	1.04	0.05	4.99	0.00	0.00	1.52	
. POISONINGS	960-979	#	2	24	49	109	63	321	276	304	153	193	100	49	1643	1.00
		R	0.32	0.44	1.76	3.74	1.86	4.03	4.06	6.33	3.49	5.26	5.43	9.07	3.64	
EXTERNAL CAUSES	E800-999	#	542	1407	1180	2437	5006	6228	10084	6635	13346	21118	24548	18236	110767	1.05
(SUPPLEMENTARY CLASS)		R	85.42	25.85	42.29	83.63	147.80	78.23	148.23	138.10	304.43	576.05	1334.13	3377.04	245.24	
. MOTOR VEHICLE CRASHES	E810-819	#	4	234	306	790	858	956	331	338	185	341	355	80	4778	0.69
		R	0.63	4.30	10.97	27.11	25.33	12.01	4.87	7.04	4.22	9.30	19.29	14.81	10.58	
. MOTOR VEHICLE (NON-TRAFFIC)	E820-825	#	0	0	1	49	0	43	19	20	31	2	19	0	184	0.37
		R	0.00	0.00	0.04	1.68	0.00	0.54	0.28	0.42	0.71	0.05	1.03	0.00	0.41	
. TRANSPORT ACCIDENTS	E800-807	#	0	36	81	42	28	43	43	36	9	40	24	0	382	0.59
	E826-848	R	0.00	0.66	2.90	1.44	0.83	0.54	0.63	0.75	0.21	1.09	1.30	0.00	0.85	
. PEDAL CYCLE ACCIDENTS	E826	#	0	36	33	21	9	17	14	33	2	28	24	0	217	0.71
		R	0.00	0.66	1.18	0.72	0.27	0.21	0.21	0.69	0.05	0.76	1.30	0.00	0.48	
. ACCIDENTAL POISONINGS	E850-869	#	2	33	0	4	8	31	49	32	85	81	34	5	364	0.55
		R	0.32	0.61	0.00	0.14	0.24	0.39	0.72	0.67	1.94	2.21	1.85	0.93	0.81	
. MISADVENTURES IN	E870-879	#	435	416	208	395	662	1559	1869	2887	6660	8858	6215	1354	31518	1.15
MEDICAL CARE		R	68.56	7.64	7.45	13.56	19.55	19.58	27.47	60.09	151.92	241.63	337.77	250.74	69.78	
. ACCIDENTAL FALLS	E880-888	#	72	373	147	167	230	542	1207	1062	4113	6786	15273	15311	45283	1.09
		R	11.35	6.85	5.27	5.73	6.79	6.81	17.74	22.10	93.82	185.11	830.05	2835.37	100.26	
. OTHER ACCIDENTS	E890-928	#	17	222	114	265	338	548	633	501	575	1387	522	155	5277	0.66
		R	2.68	4.08	4.09	9.09	9.98	6.88	9.30	10.43	13.12	37.83	28.37	28.70	11.68	
. SUICIDE	E950-959	#	0	0	61	244	520	807	373	788	207	297	328	20	3645	1.17
		R	0.00	0.00	2.19	8.37	15.35	10.14	5.48	16.40	4.72	8.10	17.83	3.70	8.07	
. HOMICIDE & INJURY	E960-969	#	1	7	7	414	97	546	95	347	31	0	0	0	1545	1.58
ON OTHERS		R	0.16	0.13	0.25	14.21	2.86	6.86	1.40	7.22	0.71	0.00	0.00	0.00	3.42	
MAIN CAUSE TOTALS	001-999	#	18482	7352	6376	10439	18694	55786	38997	48588	81523	116152	154299	96145	652833	0.96
TOTAL POPULATION		R	2912.84	135.08	228.49	358.24	551.93	700.70	573.23	1011.30	1859.56	3168.36	8385.81	7804.63	1445.36	

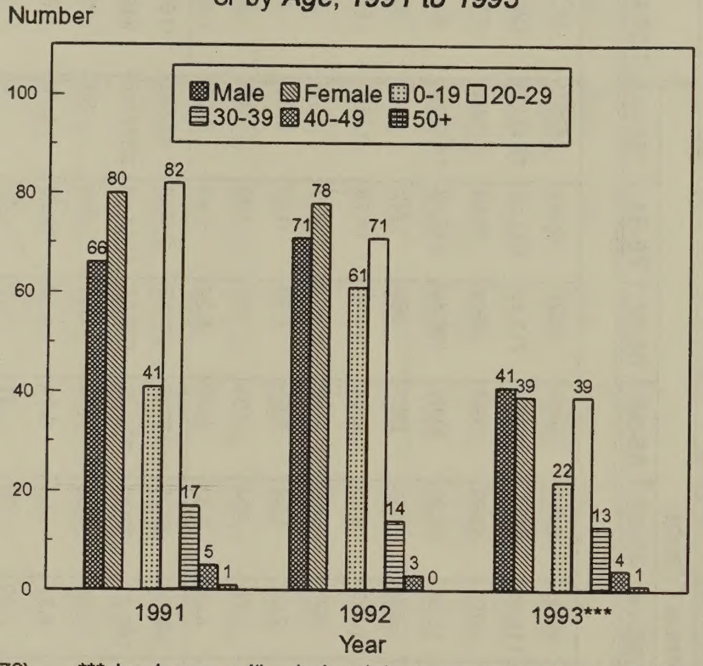
Source: Ontario Ministry of Health, Information Systems Division, 1992 #=# days; R=rate/1,000 persons; SMR = standardized morbidity ratio

Exhibit 3.1.6. ***Chlamydia Cases**** Reported to Medical Officer of Health, Hamilton-Wentworth, by ***Gender*** or by ***Age*, *1991 to 1993***



** also 13 cases with missing data on age or gender data (total cases = 676)

Exhibit 3.1.7. ***Gonorrhea Cases**** Reported to Medical Officer of Health, Hamilton-Wentworth, by ***Gender*** or by ***Age*, *1991 to 1993***



***also 4 cases with missing data on gender (total cases = 84)

Exhibit 3.1.8. ***Syphilis Cases**** Reported to Medical Officer of Health, Hamilton-Wentworth, by ***Gender*** or by ***Age*, *1991 to 1993***

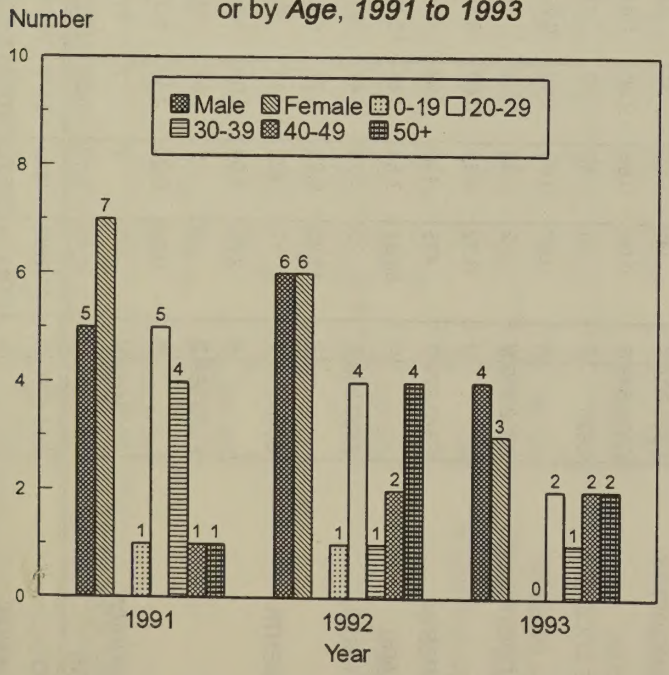
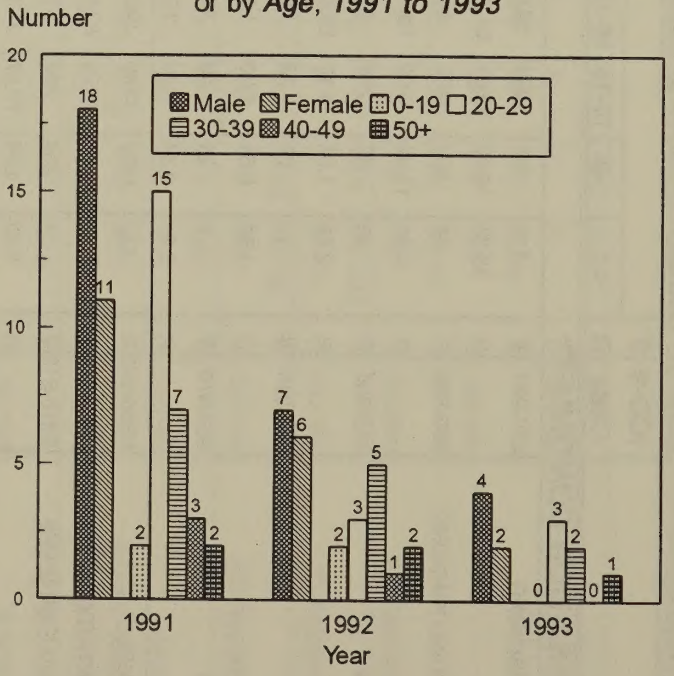


Exhibit 3.1.9. ***Hepatitis B Cases**** Reported to Medical Officer of Health, Hamilton-Wentworth, by ***Gender*** or by ***Age*, *1991 to 1993***



* Cases = having satisfied clinical and/or laboratory criteria for disease or with epidemiologic link to a clinical or laboratory confirmed case.

Source: Department of Public Health Services, Municipality of Hamilton-Wentworth, Reportable Disease Information System. *Updated data as of March 30, 1994.*

Exhibit 3.1.10. ***Risk Factors*** **for *Hepatitis B, 1991 to 1993***

Risk Factors	Cases
IV drug use	5
Infants of carriers	0
Recipient of blood	1
Household contact	3
No condom	1
Travel/endemic area	0
Sexual contact/carrier	9
Tattoo/accupunture	1
Dialysis	0
Health care worker	1
Multiple partners	0
Resident /devel.disabled home	0
Homo/bisexual male	1
Other	3
Unknown	23
Total	48

Exhibit 3.1.11. ***Influenza*** **and *Meningococcal Meningitis*** **Cases Reported to Medical Officer of Health, Hamilton-Wentworth, *1991 to 1993***

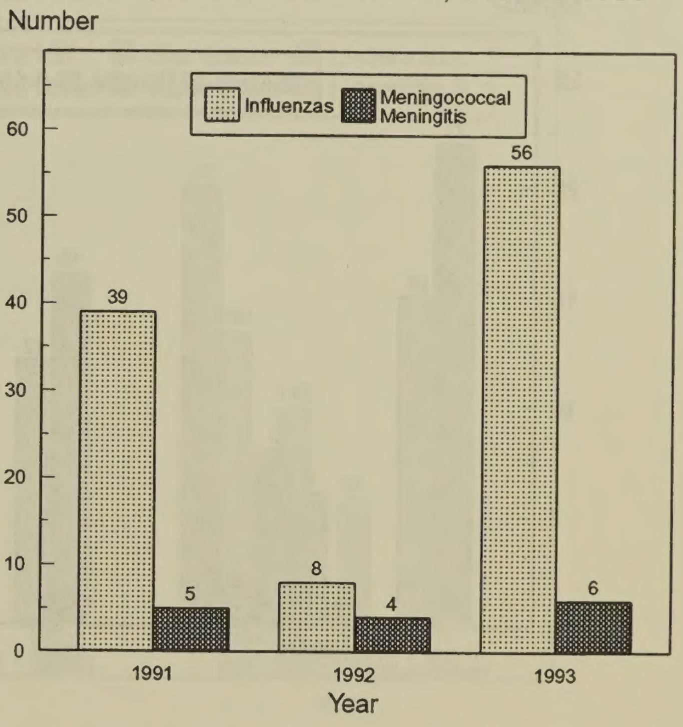


Exhibit 3.1.12. ***AIDS Cases*** **Reported to Medical Officer of Health in Hamilton-Wentworth, by *Age* or by *Gender*, *1991 to 1993***

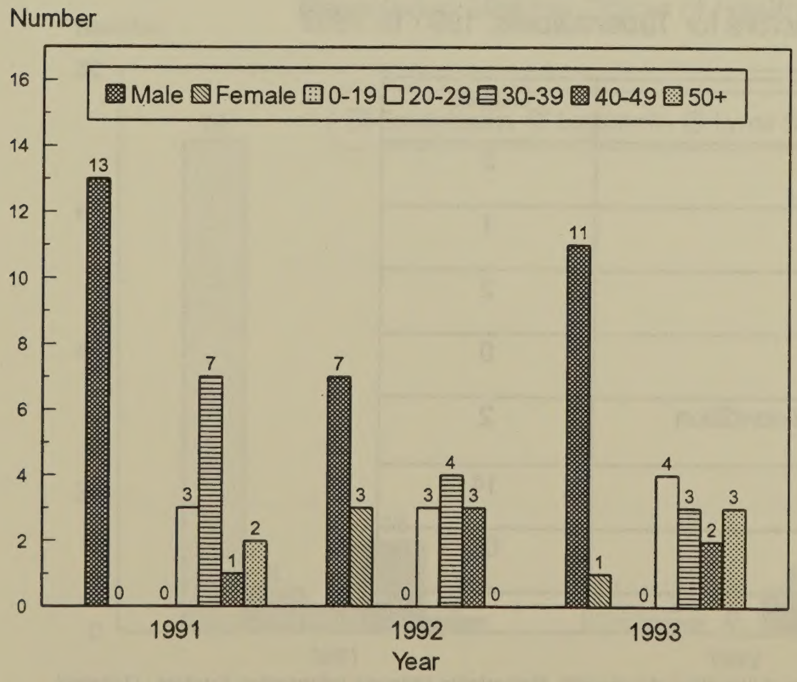


Exhibit 3.1.13. ***Risk Factors*** **for *AIDS*, *1991 to 1993***

Risk Factors	Cases
Opposite sex partners	9
Same sex partners	18
IV drug use	0
Blood transfusion before 1985	1
Unknown	7
Total	35

Source: Department of Public Health Services, Municipality of Hamilton-Wentworth, Reportable Disease Information System. *Updated data as of March 30, 1994.*

Exhibit 3.1.14. ***Tuberculosis Cases*** Reported to Medical Officer of Health in Hamilton-Wentworth, by ***Age*** or by ***Gender***, 1991 to 1993

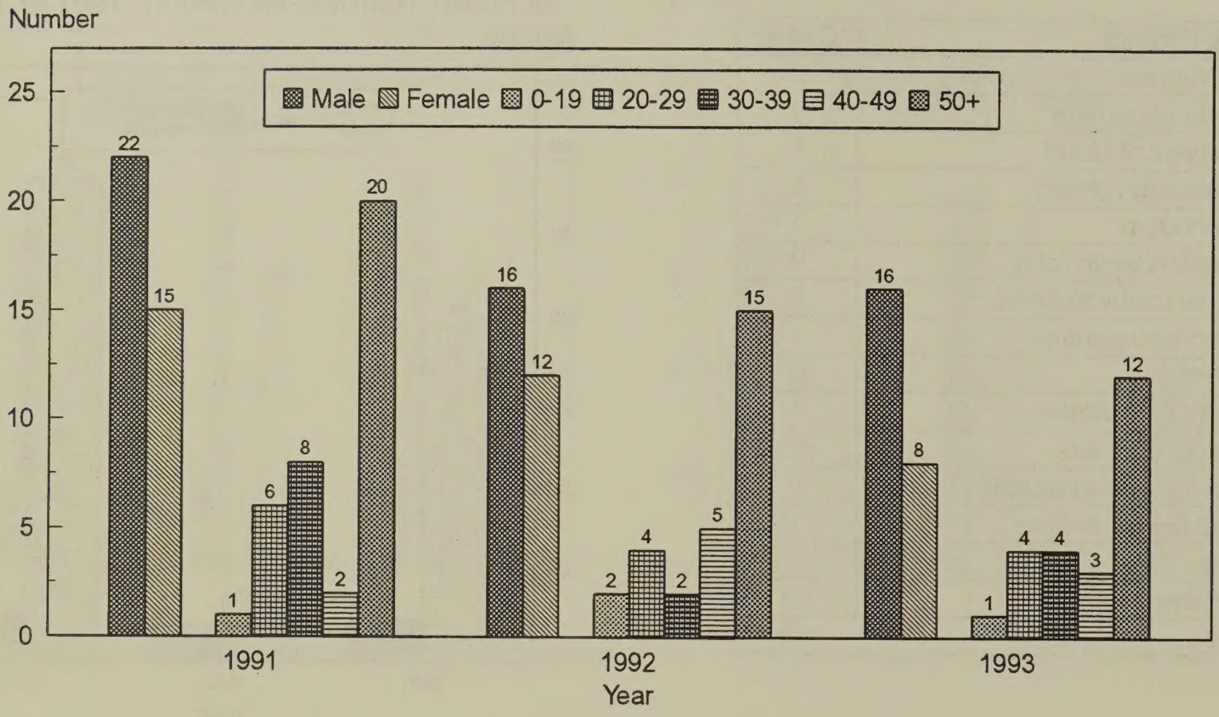
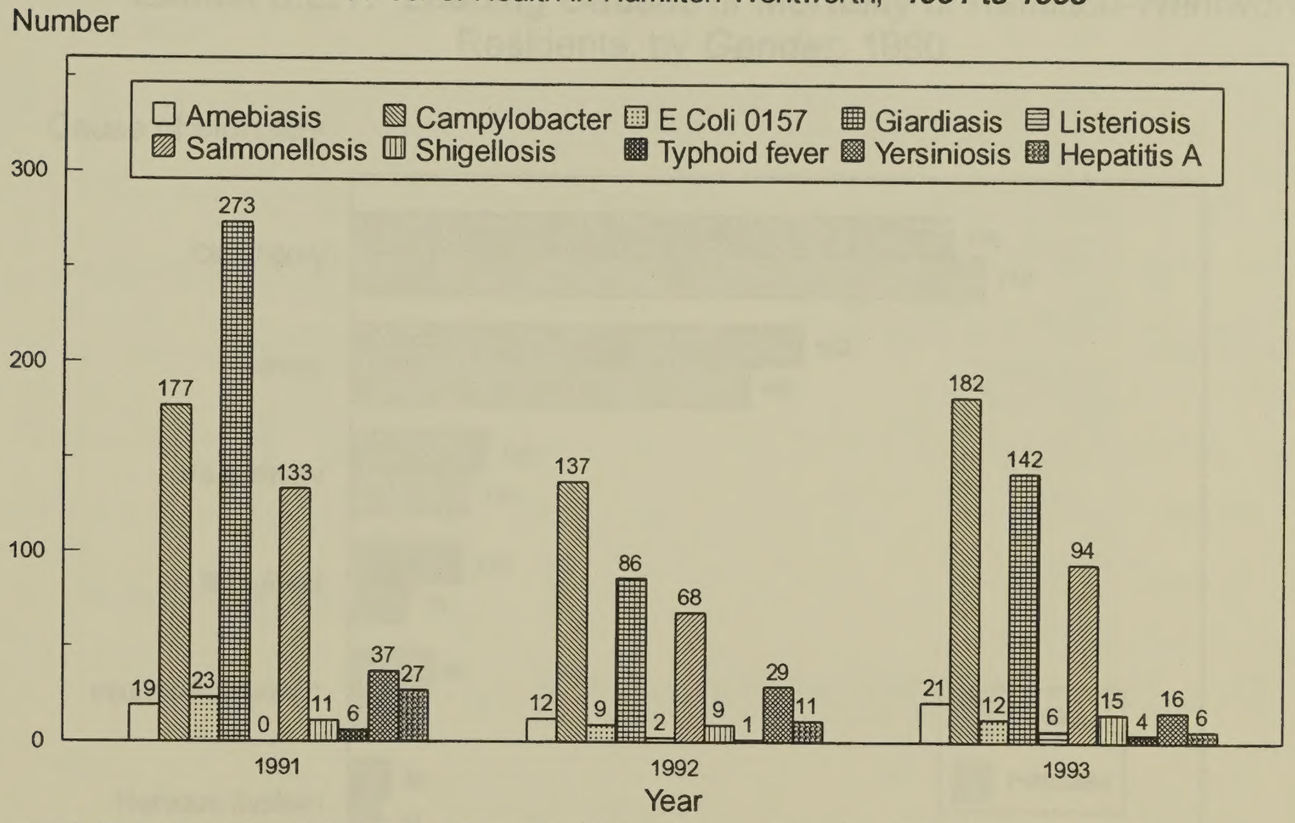


Exhibit 3.1.15. ***Risk Factors*** for ***Tuberculosis***, 1991 to 1993

Risk Factors	Cases
Close contact	2
Health care worker	1
Alcoholic	2
Immigrant	0
Underlying medical condition	2
Other	14
Unknown	68

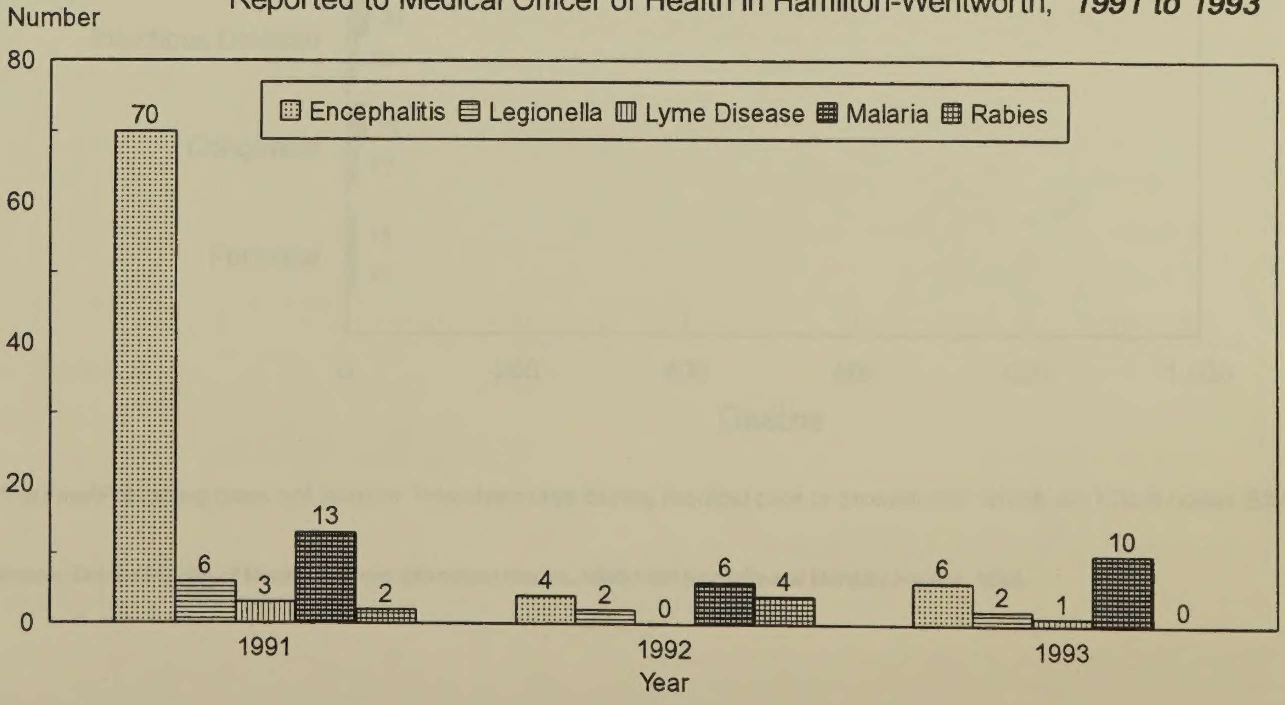
Source: Department of Public Health Services, Municipality of Hamilton-Wentworth, Reportable Disease Information System. *Updated Data as of March 30, 1994.*

Exhibit 3.1.16. ***Enteric Infections, Hepatitis A*** and ***Food-Borne Diseases**** Reported to Medical Officer of Health in Hamilton-Wentworth, ***1991 to 1993***



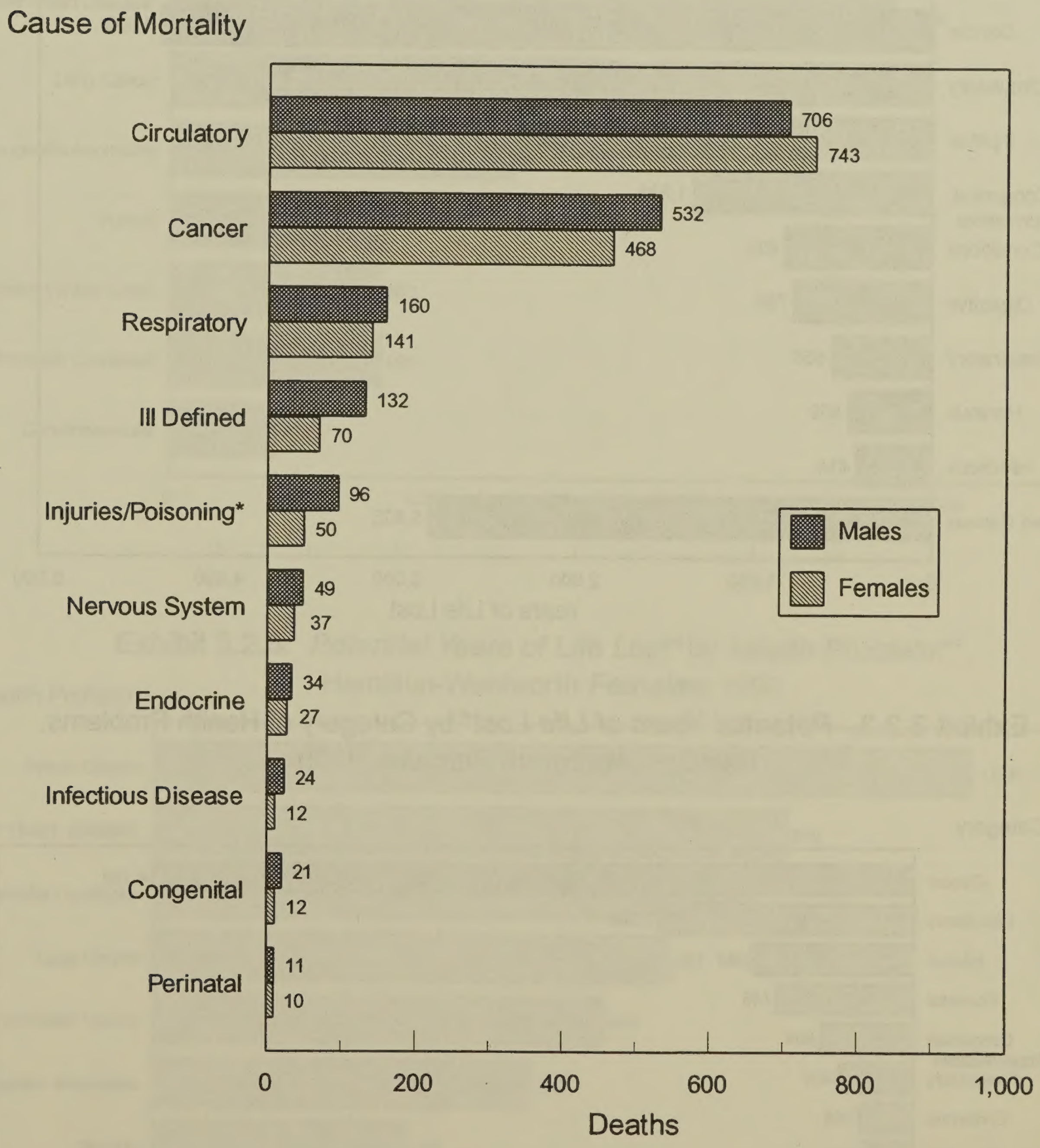
* Only laboratory confirmed cases of food intoxication/gastroenteritis are reflected - incidence rate would be approximately 30% higher when symptomatic and clinical diagnosed cases are included.

Exhibit 3.1.17. ***Vector-Borne*** and ***Environmentally Acquired Diseases*** Reported to Medical Officer of Health in Hamilton-Wentworth, ***1991 to 1993***



Source: Department of Public Health Services, Municipality of Hamilton-Wentworth, Reportable Disease Information System. *Jan. 21, 1994.*

Exhibit 3.2.1. *Leading Causes* of *Mortality* of Hamilton-Wentworth Residents, by *Gender,* 1990



*Injuries/Poisoning does not include "misadventures during medical care or procedures" which are ICD-9 codes E870-E879.

Source: Ontario Ministry of Health, Systems Information Branch, 1986-1990 Morbidity and Mortality Reports, 1992.

Exhibit 3.2.2. Potential Years of Life Lost* by Category of Health Problems , Hamilton-Wentworth Males, 1990

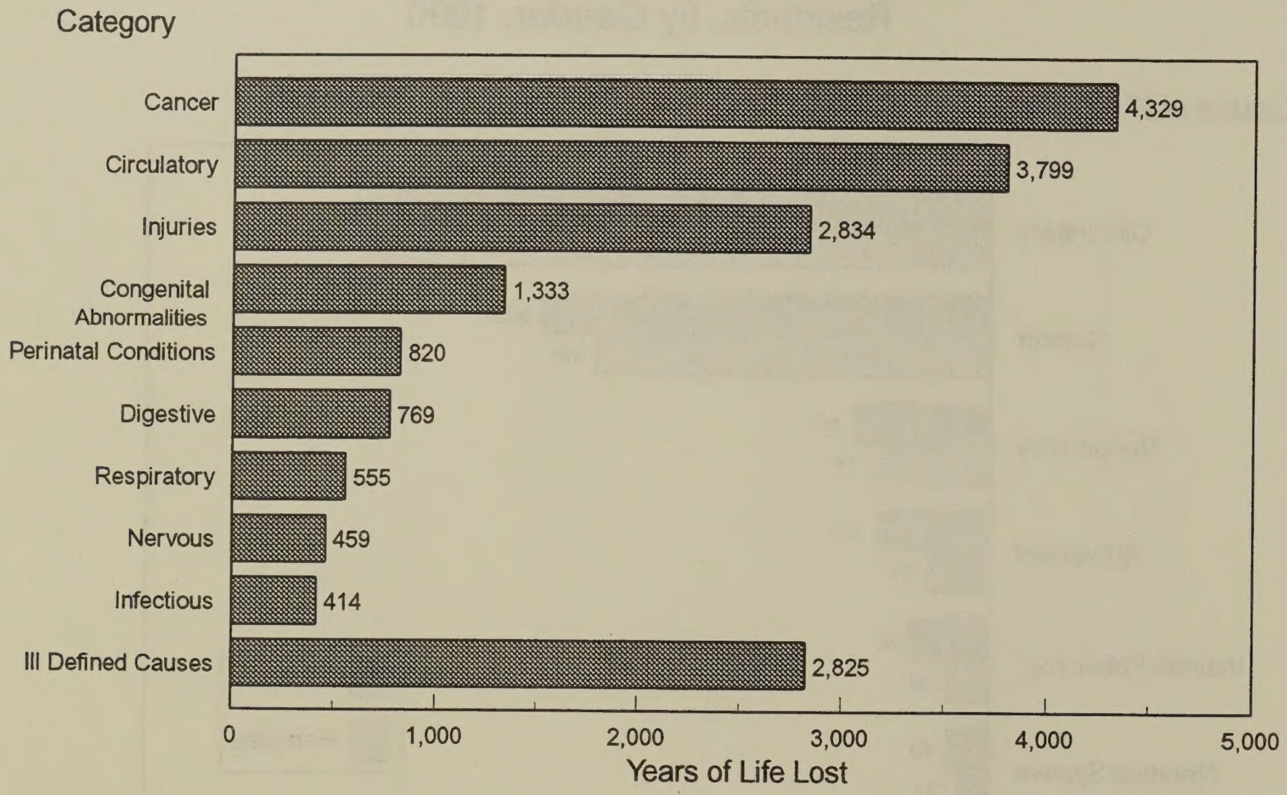
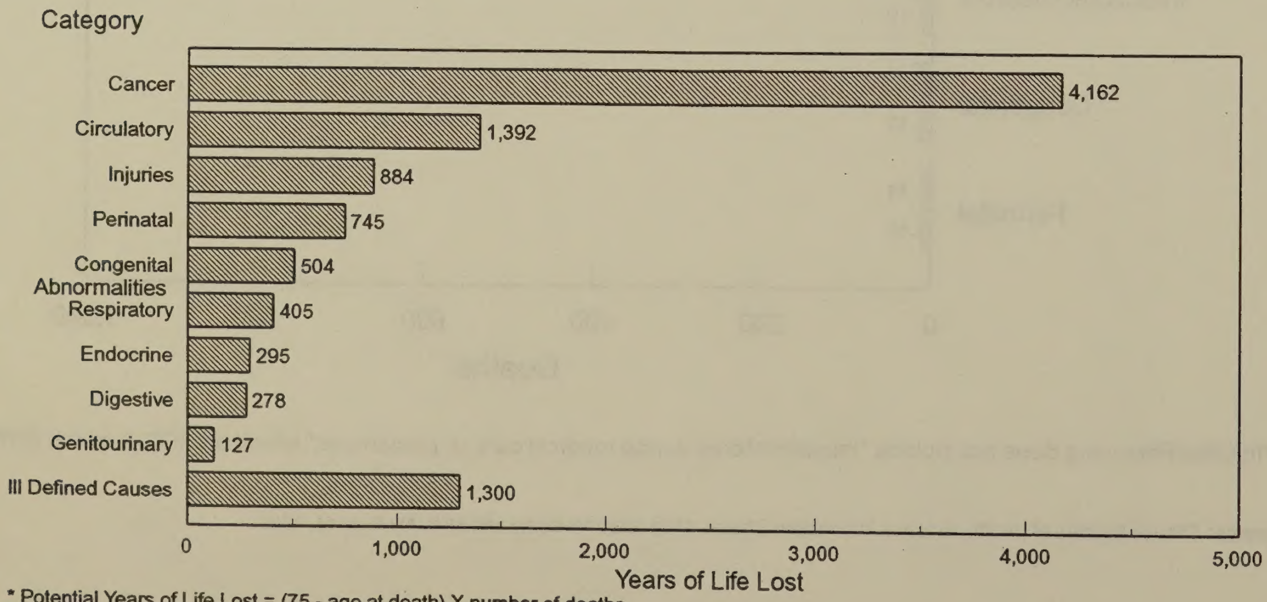


Exhibit 3.2.3. Potential Years of Life Lost* by Category of Health Problems, Hamilton-Wentworth Females, 1990



* Potential Years of Life Lost = (75 - age at death) X number of deaths
Category of Health Problems = as defined by Categories of ICD-9
ICD-9 = International Classification of Diseases, 9th Revision

Source: Ontario Ministry of Health, 1986-1990 Morbidity and Mortality Reports, 1992

Exhibit 3.2.4. Potential Years of Life Lost* by Health Problem** , Hamilton-Wentworth *Males*, 1990

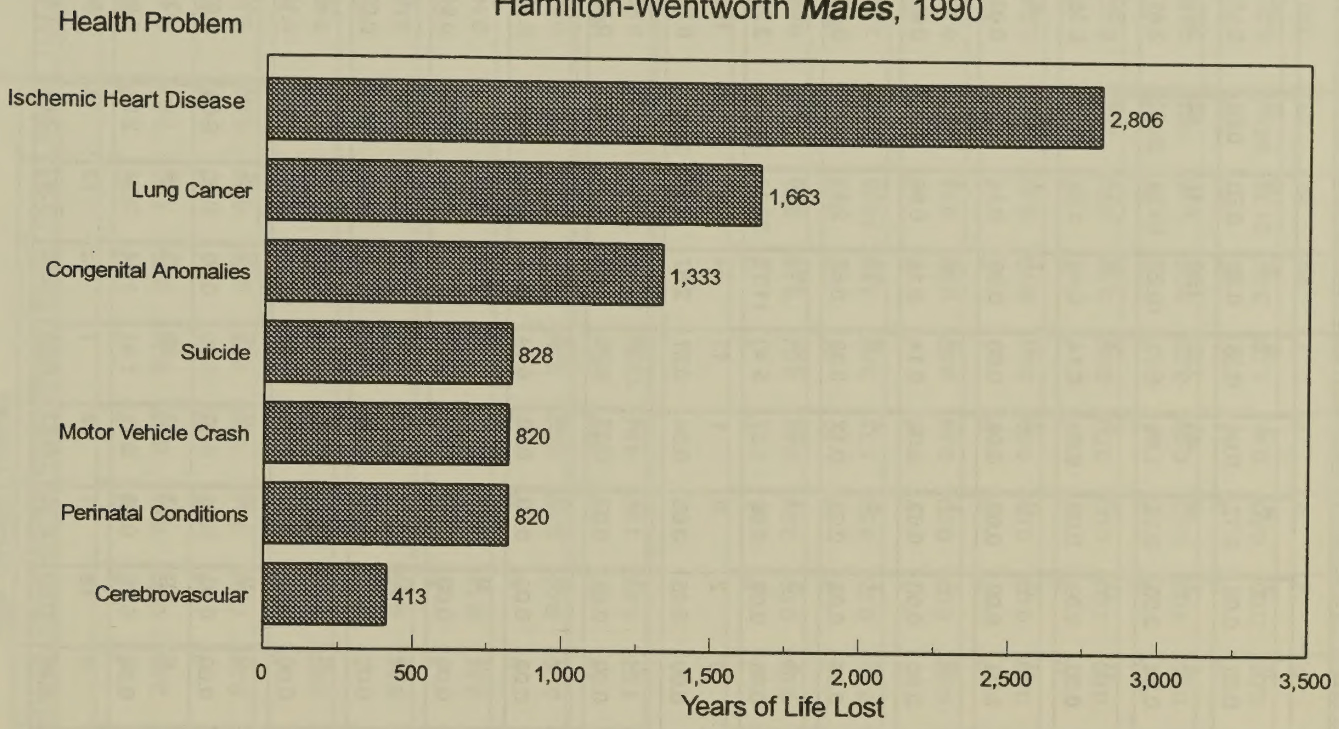
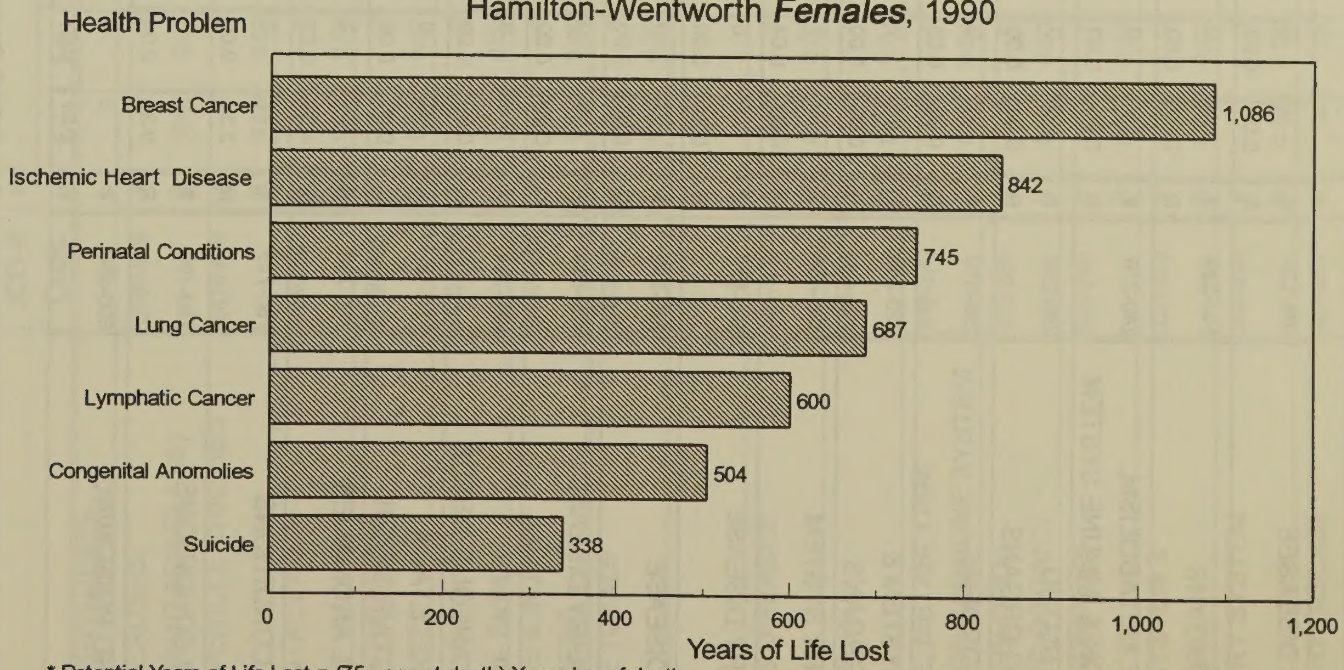


Exhibit 3.2.5. Potential Years of Life Lost* by Health Problem** , Hamilton-Wentworth *Females*, 1990



* Potential Years of Life Lost = (75 - age at death) X number of deaths
**Health Problem = ICD-9 sub-category

Source: Ontario Ministry of Health, 1986-1990 Morbidity and Mortality Reports, 1992

Exhibit 3.2.6. Mortality of Hamilton-Wentworth Residents by Age and by Cause of Death, 1990

Diagnosis	ICD-9 Code	# R	Age Group (Years)												TOTAL	SMR
			< 1	1-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+		
MALES:																
INFECTIOUS DISEASES	001-139	#	0	0	0	0	0	3	4	1	6	5	5	0	24	0.92
		R	0.00	0.00	0.00	0.00	0.00	0.08	0.12	0.04	0.28	0.30	0.70	0.00	0.11	
NEOPLASMS	140-239	#	0	0	1	0	4	3	9	40	122	169	141	43	532	1.04
		R	0.00	0.00	0.07	0.00	0.24	0.08	0.27	1.66	5.73	10.27	19.78	28.20	2.41	
ENDOCRINE, METABOLISM, NUTRITION & IMMUNE SYSTEM	240-279	#	0	0	0	1	0	0	3	1	3	8	13	5	34	0.77
		R	0.00	0.00	0.00	0.07	0.00	0.00	0.09	0.04	0.14	0.49	1.82	3.28	0.15	
BLOOD AND BLOOD FORMING ORGANS	280-289	#	0	0	0	0	0	0	0	2	0	1	1	2	6	1.09
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.06	0.14	1.31	0.03	
MENTAL DISORDERS	290-319	#	0	0	0	0	0	0	1	2	3	3	4	3	16	0.73
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.08	0.14	0.18	0.56	1.97	0.07	
NERVOUS SYSTEM & SENSE ORGANS	320-389	#	0	0	1	1	0	1	1	4	8	11	18	4	49	1.24
		R	0.00	0.00	0.07	0.07	0.00	0.03	0.03	0.17	0.38	0.67	2.52	2.62	0.22	
CIRCULATORY SYSTEM	390-459	#	0	1	0	0	1	3	3	33	115	193	236	121	706	1.02
		R	0.00	0.04	0.00	0.00	0.06	0.08	0.09	1.37	5.40	11.73	33.10	79.34	3.20	
RESPIRATORY DISEASE	460-519	#	1	0	0	0	0	2	0	1	13	44	61	38	160	1.01
		R	0.30	0.00	0.00	0.00	0.00	0.05	0.00	0.04	0.61	2.67	8.56	24.92	0.73	
DIGESTIVE DISEASE	520-579	#	0	0	0	0	0	3	1	9	16	26	16	8	79	1.21
		R	0.00	0.00	0.00	0.00	0.00	0.08	0.03	0.37	0.75	1.58	2.24	5.25	0.36	
GENITOURINARY DISEASE	580-629	#	0	0	0	0	0	0	0	0	3	5	13	7	28	1.09
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.30	1.82	4.59	0.13	
DISEASES OF SKIN & SUBCUTANEOUS TISSUE	680-709	#	0	0	0	0	0	0	0	0	0	0	1	1	2	1.73
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.66	0.01	
MUSKULOSKELETAL & CONNECTIVE TISSUE	710-739	#	0	0	0	0	0	0	0	0	0	0	0	0	0	
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
CONGENITAL ANOMALIES	740-759	#	15	2	0	0	0	0	1	1	1	0	1	0	21	1.81
		R	4.55	0.07	0.00	0.00	0.00	0.00	0.03	0.04	0.05	0.00	0.14	0.00	0.10	
PERINATAL CONDITIONS	760-779	#	11	0	0	0	0	0	0	0	0	0	0	0	11	1.15
		R	3.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	
ILL DEFINED CONDITIONS	780-799	#	1	1	0	3	5	10	23	17	30	22	16	4	132	1.42
		R	0.30	0.04	0.00	0.20	0.30	0.25	0.69	0.71	1.41	1.34	2.24	2.62	0.60	
INJURIES AND POISONING	800-999	#	2	2	1	6	8	16	17	8	7	12	13	4	96	0.90
		R	0.61	0.07	0.07	0.41	0.48	0.40	0.51	0.33	0.33	0.73	1.82	2.62	0.44	

# = number of deaths; R = rate per 1,000 population (1986 Canadian Census); SMR = standaridized morbidity ratio.

Source: Ontario Ministry of Health, Information Systems Division, 1992

Exhibit 3.2.6. Mortality of Hamilton-Wentworth Residents by Age and by Cause of Death, 1990 (continued)

Diagnosis	ICD-9 Code	# R	< 1	1-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	TOTAL	SMR
MALES CONTINUED:																
EXTERNAL CAUSES,	E800-999	#	2	2	1	6	8	16	17	8	7	12	13	4	96	0.90
(SUPPLEMENTARY CLASS)		R	0.61	0.07	0.07	0.41	0.48	0.40	0.51	0.33	0.33	0.73	1.82	2.62	0.44	
. MOTOR VEHICLE CRASHES	E810-819	#	0	0	1	2	4	4	6	0	1	1	4	0	23	0.84
		R	0.00	0.00	0.07	0.14	0.24	0.10	0.18	0.00	0.05	0.06	0.56	0.00	0.10	
. ACCIDENTAL FALLS	E880-888	#	0	0	0	0	0	0	0	0	0	4	5	3	12	0.71
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.70	1.97	0.05	
. OTHER ACCIDENTS	E890-928	#	1	2	0	0	1	4	2	1	0	2	3	1	17	1.11
		R	0.30	0.07	0.00	0.00	0.06	0.10	0.06	0.04	0.00	0.12	0.42	0.66	0.08	
. SUICIDE	E950-959	#	0	0	0	3	3	5	4	4	2	3	0	0	24	0.80
		R	0.00	0.00	0.00	0.20	0.18	0.13	0.12	0.17	0.09	0.18	0.00	0.00	0.11	
. HOMICIDE & INJURY ON OTHERS	E960-969	#	1	0	0	0	0	0	0	0	1	0	0	0	2	0.63
		R	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.01	
MAIN CAUSE TOTALS MALES	001-999	#	30	6	3	11	18	41	63	119	327	499	539	240	1896	1.05
		R	9.10	0.22	0.21	0.75	1.07	1.03	1.89	4.94	15.34	30.32	75.60	157.38	8.60	
FEMALES:																
INFECTIOUS DISEASES	001-139	#	0	0	0	0	1	0	1	0	1	3	4	2	12	1.06
		R	0.00	0.00	0.00	0.00	0.06	0.00	0.03	0.00	0.04	0.15	0.35	0.52	0.05	
NEOPLASMS	140-239	#	0	1	0	0	2	9	18	41	87	133	123	54	468	1.07
		R	0.00	0.04	0.00	0.00	0.12	0.23	0.52	1.71	3.86	6.58	10.91	13.94	2.02	
ENDOCRINE, METABOLISM, NUTRITION & IMMUNE SYSTEM	240-279	#	0	1	0	0	1	1	0	3	2	4	8	7	27	0.52
		R	0.00	0.04	0.00	0.00	0.06	0.03	0.00	0.13	0.09	0.20	0.71	1.81	0.12	
BLOOD AND BLOOD FORMING ORGANS	280-289	#	0	0	0	0	0	0	0	0	1	3	3	3	10	1.44
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.15	0.27	0.77	0.04	
MENTAL DISORDERS	290-319	#	0	1	0	0	0	0	0	0	2	3	3	15	24	0.76
		R	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.15	0.27	3.87	0.10	
NERVOUS SYSTEM & SENSE ORGANS	320-389	#	0	0	0	1	0	0	0	2	2	6	12	14	37	0.74
		R	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.08	0.09	0.30	1.06	3.61	0.16	
CIRCULATORY SYSTEM	390-459	#	1	0	0	0	0	0	0	11	40	118	245	328	743	1.06
		R	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.46	1.78	5.84	21.74	84.65	3.21	
RESPIRATORY DISEASE	460-519	#	0	0	0	0	0	2	2	2	7	20	51	57	141	1.09
		R	0.00	0.00	0.00	0.00	0.00	0.05	0.06	0.08	0.31	0.99	4.53	14.71	0.61	

# = number of deaths; R = rate per 1,000 population (1986 Canadian Census); SMR = standardized morbidity ratio.

Source: Ontario Ministry of Health, Information Systems Division, 1992

Exhibit 3.2.6. Mortality of Hamilton-Wentworth Residents by Age and by Cause of Death, 1990 (continued)

Diagnosis	ICD-9 Code	# R	Age Group (Years)												TOTAL	SMR
			< 1	1-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+		
FEMALES CONTINUED:																
DIGESTIVE DISEASE	520-579	#	1	0	0	0	0	1	1	0	5	9	23	25	65	1.14
		R	0.33	0.00	0.00	0.00	0.00	0.03	0.03	0.00	0.22	0.45	2.04	6.45	0.28	
GENITOURINARY DISEASE	580-629	#	0	0	0	0	0	0	2	0	2	8	8	18	38	1.50
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.09	0.40	0.71	4.65	0.16	
COMPLICATIONS OF PREGNANCY	630-648	#	0	0	0	0	0	0	0	0	0	0	0	0	0	
	651-676	R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
DISEASES OF SKIN & SUBCUTANEOUS TISSUE	680-709	#	0	0	0	0	0	0	0	0	0	0	1	0	1	0.37
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	
MUSKULOSKELETAL & CONNECTIVE TISSUE	710-739	#	0	0	0	0	0	0	0	1	1	0	1	5	8	0.95
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.00	0.09	1.29	0.03	
CONGENITAL ANOMALIES	740-759	#	6	0	0	0	0	0	0	1	2	0	1	2	12	1.35
		R	1.97	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.09	0.00	0.09	0.52	0.05	
PERINATAL CONDITIONS	760-779	#	10	0	0	0	0	0	0	0	0	0	0	0	10	1.23
		R	3.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	
ILL DEFINED CONDITIONS	780-799	#	4	2	0	2	1	6	5	5	5	11	14	15	70	1.01
		R	1.31	0.08	0.00	0.14	0.06	0.15	0.14	0.21	0.22	0.54	1.24	3.87	0.30	
INJURIES & POISONING	800-999	#	1	1	0	1	1	5	7	4	4	2	9	15	50	0.81
		R	0.33	0.04	0.00	0.07	0.06	0.13	0.20	0.17	0.18	0.10	0.80	3.87	0.22	
EXTERNAL CAUSES, (SUPPLEMENTARY CLASS)	E800-999	#	1	1	0	1	1	5	7	4	4	2	9	15	50	0.81
		R	0.33	0.04	0.00	0.07	0.06	0.13	0.20	0.17	0.18	0.10	0.80	3.87	0.22	
. MOTOR VEHICLE ACCIDENTS	E810-819	#	0	0	0	0	1	1	3	1	1	0	2	1	10	0.70
		R	0.00	0.00	0.00	0.00	0.06	0.03	0.09	0.04	0.04	0.00	0.18	0.26	0.04	
. ACCIDENTAL FALLS	E880-888	#	0	0	0	0	0	0	0	0	0	0	4	14	18	0.78
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.35	3.61	0.08	
. OTHER ACCIDENTS	E890-928	#	1	1	0	0	0	0	0	0	1	1	1	0	5	0.71
		R	0.33	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05	0.09	0.00	0.02	
. SUICIDE	E950-959	#	0	0	0	1	0	2	3	2	2	1	0	0	11	1.15
		R	0.00	0.00	0.00	0.07	0.00	0.05	0.09	0.08	0.09	0.05	0.00	0.00	0.05	
. HOMICIDE & INJURY ON OTHERS	E960-969	#	0	0	0	0	0	1	1	0	0	0	0	0	2	1.02
		R	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.01	
MAIN CAUSE TOTALS FEMALES	001-999	#	23	6	0	4	6	24	36	70	161	320	506	560	1716	1.03
		R	7.54	0.23	0.00	0.28	0.35	0.60	1.04	2.92	7.15	15.84	44.90	144.52	7.42	

# = number of deaths; R = rate per 1,000 population (1986 Canadian Census); SMR = standardized morbidity ratio.

Source: Ontario Ministry of Health, Information Systems Division, 1992

3.2. Mortality

Exhibit 3.2.6. Mortality of Hamilton-Wentworth Residents by Age and by Cause of Death, 1990 (continued)

Diagnosis	ICD-9 Code	#	Age Group (Years)												TOTAL	SMR
		R	< 1	1-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+		
TOTAL POPULATION:																
INFECTIOUS DISEASES	001-139	#	0	0	0	0	1	3	5	1	7	8	9	2	36	0.96
		R	0.00	0.00	0.00	0.00	0.03	0.04	0.07	0.02	0.16	0.22	0.49	0.37	0.08	
NEOPLASMS	140-239	#	0	1	1	0	6	12	27	81	209	302	264	97	1000	1.05
		R	0.00	0.02	0.04	0.00	0.18	0.15	0.40	1.69	4.77	8.24	14.35	17.96	2.21	
ENDOCRINE, METABOLISM, NUTRITION & IMMUNE SYSTEM	240-279	#	0	1	0	1	1	1	3	4	5	12	21	12	61	0.63
		R	0.00	0.02	0.00	0.03	0.03	0.01	0.04	0.08	0.11	0.33	1.14	2.22	0.14	
BLOOD AND BLOOD FORMING ORGANS	280-289	#	0	0	0	0	0	0	0	2	1	4	4	5	16	1.28
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.02	0.11	0.22	0.93	0.04	
MENTAL DISORDERS	290-319	#	0	1	0	0	0	0	1	2	5	6	7	18	40	0.75
		R	0.00	0.02	0.00	0.00	0.00	0.00	0.01	0.04	0.11	0.16	0.38	3.33	0.09	
NERVOUS SYSTEM & SENSE ORGANS	320-389	#	0	0	1	2	0	1	1	6	10	17	30	18	86	0.96
		R	0.00	0.00	0.04	0.07	0.00	0.01	0.01	0.12	0.23	0.46	1.63	3.33	0.19	
CIRCULATORY SYSTEM	390-459	#	1	1	0	0	1	3	3	44	155	311	481	449	1449	1.04
		R	0.16	0.02	0.00	0.00	0.03	0.04	0.04	0.92	3.54	8.48	26.14	83.15	3.21	
RESPIRATORY DISEASE	460-519	#	1	0	0	0	0	4	2	3	20	64	112	95	301	1.04
		R	0.16	0.00	0.00	0.00	0.00	0.05	0.03	0.06	0.46	1.75	6.09	17.59	0.67	
DIGESTIVE DISEASE	520-579	#	1	0	0	0	0	4	2	9	21	35	39	33	144	1.18
		R	0.16	0.00	0.00	0.00	0.00	0.05	0.03	0.19	0.48	0.95	2.12	6.11	0.32	
GENITOURINARY DISEASE	580-629	#	0	0	0	0	0	0	2	0	5	13	21	25	66	1.29
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.11	0.35	1.14	4.63	0.15	
COMPLICATIONS OF PREGNANCY	630-649 751-776	#	0	0	0	0	0	0	0	0	0	0	0	0	0	
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
DISEASES OF SKIN & SUBCUTANEOUS TISSUE	680-709	#	0	0	0	0	0	0	0	0	0	0	2	1	3	0.77
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.19	0.01	
MUSKULOSKELETAL & CONNECTIVE TISSUE	710-739	#	0	0	0	0	0	0	0	1	1	0	1	5	8	0.68
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.00	0.05	0.93	0.02	
CONGENITAL ANOMALIES	740-759	#	21	2	0	0	0	0	1	2	3	0	2	2	33	1.61
		R	3.31	0.04	0.00	0.00	0.00	0.00	0.01	0.04	0.07	0.00	0.11	0.37	0.07	
PERINATAL CONDITIONS	760-779	#	21	0	0	0	0	0	0	0	0	0	0	0	21	1.19
		R	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	
ILL DEFINED CONDITIONS	780-799	#	5	3	0	5	6	16	28	22	35	33	30	19	202	1.24
		R	0.79	0.06	0.00	0.17	0.18	0.20	0.41	0.46	0.80	0.90	1.63	3.52	0.45	
INJURIES & POISONING	800-999	#	3	3	1	7	9	21	24	12	11	14	22	19	146	0.87
		R	0.47	0.06	0.04	0.24	0.27	0.26	0.35	0.25	0.25	0.38	1.20	3.52	0.32	

# = number of deaths; R = rate per 1,000 population (1986 Canadian Census); SMR = standardized morbidity ratio.

Source: Ontario Ministry of Health, Information Systems Division, 1992

Exhibit 3.2.6. Mortality of Hamilton-Wentworth Residents by Age and by Cause of Death, 1990 (continued)

Diagnosis	ICD-9 Code	# R	Age Group (Years)												TOTAL	SMR
			< 1	1-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+		
TOTAL POPULATION CONTINUED:																
EXTERNAL CAUSES	E800-999	#	3	3	1	7	9	21	24	12	11	14	22	19	146	0.87
(SUPPLEMENTARY CLASS)		R	0.47	0.06	0.04	0.24	0.27	0.26	0.35	0.25	0.25	0.38	1.20	3.52	0.32	
. MOTOR VEHICLE CRASHES	E810-819	#	0	0	1	2	5	5	9	1	2	1	6	1	33	0.79
		R	0.00	0.00	0.04	0.07	0.15	0.06	0.13	0.02	0.05	0.03	0.33	0.19	0.07	
. ACCIDENTAL FALLS	E880-888	#	0	0	0	0	0	0	0	0	0	4	9	17	30	0.75
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.49	3.15	0.07	
. OTHER ACCIDENTS	E890-928	#	2	3	0	0	1	4	2	1	1	3	4	1	22	0.98
		R	0.32	0.06	0.00	0.00	0.03	0.05	0.03	0.02	0.02	0.08	0.22	0.19	0.05	
. SUICIDE	E950-959	#	0	0	0	4	3	7	7	6	4	4	0	0	35	0.88
		R	0.00	0.00	0.00	0.14	0.09	0.09	0.10	0.12	0.09	0.11	0.00	0.00	0.08	
. HOMICIDE & INJURY	E960-969	#	1	0	0	0	0	1	1	0	1	0	0	0	4	0.78
ON OTHERS		R	0.16	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.02	0.00	0.00	0.00	0.01	
MAIN CAUSE TOTALS	001-999	#	53	12	3	15	24	65	99	189	488	819	1045	800	3612	1.04
TOTAL POPULATION		R	8.35	0.22	0.11	0.51	0.71	0.82	1.46	3.93	11.13	22.34	56.79	148.15	8.00	

# = number of deaths; R = rate per 1,000 population (1986 Canadian Census); SMR = standardized morbidity ratio.

Source: Ontario Ministry of Health, Information Systems Division, 1992

Exhibit 3.2.7. Number of Deaths and Age-Specific Rates for the Most Common Cancers in Hamilton-Wentworth, 1991

Site	ICD-9 Code	0-14		15-29		30-44		45-59		60-74		75+		TOTAL	
		#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
MALES															
Prostate	185	0	0.00	0	0.00	0	0.00	2	5.75	21	77.42	31	358.17	54	24.49
Colorectal	153-154	0	0.00	0	0.00	2	3.78	7	20.14	23	84.79	18	207.97	50	22.67
Lung	162	0	0.00	0	0.00	2	3.78	30	86.32	87	320.74	54	623.92	173	78.45
Bladder	188	0	0.00	0	0.00	0	0.00	0	0.00	*		**		19	8.62
Non-Hodgkin's Lymphoma	200,202	0	0.00	2	3.87	0	0.00	2	5.75	6	22.12	5	57.77	15	6.80
Leukaemia	204-208	0	0.00	0	0.00	2	3.78	1	2.88	6	22.12	12	138.65	21	9.52
Kidney	189	0	0.00	0	0.00	1	1.89	3	8.63	*		*		11	4.99
Stomach	151	0	0.00	0	0.00	0	0.00	1	2.88	14	51.61	9	103.99	24	10.88
Melanoma	172	0	0.00	0	0.00	2	3.78	4	11.51	*		*		11	4.99
Pancreas	157	0	0.00	0	0.00	1	1.89	4	11.51	13	47.93	11	127.09	29	13.15
All sites combined, excluding skin	140-208, excluding 173	1	2.20	3	5.80	15	28.36	71	204.29	245	906.91	211	2437.90	547	248.06
FEMALES															
Breast	174	0	0.00	1	1.94	11	20.14	15	42.94	37	116.61	29	191.48	93	40.23
Colorectal	153-154	0	0.00	0	0.00	2	3.66	5	14.31	17	53.58	23	151.84	47	20.33
Lung	162	0	0.00	0	0.00	0	0.00	13	37.21	60	189.10	24	158.47	97	41.96
Bladder	188	0	0.00	0	0.00	0	0.00	0	0.00	3	9.45	5	33.01	8	3.46
Non-Hodgkin's Lymphoma	200,202	0	0.00	1	1.94	0	0.00	1	2.86	4	12.61	5	33.01	11	4.76
Leukaemia	204-208	1	2.31	2	3.89	0	0.00	1	2.86	9	28.36	7	46.22	20	8.65
Kidney	189	0	0.00	0	0.00	0	0.00	*		3	9.45	*		8	3.46
Stomach	151	0	0.00	0	0.00	1	1.83	0	0.00	8	25.21	15	99.04	24	10.38
Melanoma	172	0	0.00	0	0.00	0	0.00	0	0.00	*		*		4	1.73
Pancreas	157	0	0.00	0	0.00	0	0.00	2	5.72	9	28.36	9	59.43	20	8.65
Uterus	182	0	0.00	0	0.00	0	0.00	0	0.00	*		*		6	2.60
Ovary	183	0	0.00	0	0.00	0	0.00	4	11.45	8	25.21	10	66.03	22	9.52
Cervix	180	0	0.00	0	0.00	0	0.00	*		3	9.45	*		9	3.89
All sites combined, excluding skin	140-208, excluding 173	2	4.62	4	7.78	21	38.44	64	183.20	205	646.08	187	1234.73	483	208.95

Abbreviations:
Rate = Age-Specific Rates per 100,000 population
* = less than five persons when population size is less than 30,000 not released to protect patient confidentiality
** = not provided so that less than five persons cell cannot be determined by subtraction
SMR = standardized morbidity ratio

Source: Ontario Cancer Treatment and Research Foundation. Toronto, 1994.

Exhibit 3.2.8. Potential Years of Life Lost for Hamilton-Wentworth Residents, by Age and by Cause of Death, 1990

Diagnosis	ICD-9 Code	# R	Age Group (Years)										TOTAL	SMR
			< 1	1-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74		
MALES:														
INFECTIOUS DISEASES	001-139	#	0	0	0	0	0	135	143	30	86	21	414	0.62
		R	0.00	0.00	0.00	0.00	0.00	3.39	4.30	1.22	4.04	1.25	1.95	
NEOPLASMS	140-239	#	0	0	64	0	205	133	311	950	1763	905	4329	1.04
		R	0.00	0.00	4.43	0.00	12.19	3.34	9.33	39.40	82.73	54.95	20.43	
ENDOCRINE, METABOLISM, NUTRITION & IMMUNE SYSTEM	240-279	#	0	0	0	59	0	0	112	21	37	38	34	0.84
		R	0.00	0.00	0.00	3.97	0.00	0.00	3.35	0.85	1.71	2.31	1.25	
BLOOD AND BLOOD FORMING ORGANS	280-289	#	0	0	0	0	0	0	0	51	0	10	61	1.30
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.12	0.00	0.58	0.29	
MENTAL DISORDERS	290-319	#	0	0	0	0	0	0	40	51	54	18	162	0.99
		R	0.00	0.00	0.00	0.00	0.00	0.00	1.19	2.12	2.51	1.06	0.76	
NERVOUS SYSTEM & SENSE ORGANS	320-389	#	0	0	62	58	0	46	34	96	121	44	459	1.43
		R	0.00	0.00	0.07	0.07	0.00	0.03	0.03	3.98	5.68	2.64	2.16	
CIRCULATORY SYSTEM	390-459	#	0	67	0	0	55	140	103	802	1646	989	3799	1.02
		R	0.00	2.39	0.00	0.00	3.24	3.51	3.08	33.24	77.22	60.05	17.93	
RESPIRATORY DISEASE	460-519	#	75	0	0	0	0	83	0	21	183	194	555	1.01
		R	22.61	0.00	0.00	0.00	0.00	2.09	0.00	0.85	8.56	11.79	2.62	
DIGESTIVE DISEASE	520-579	#	0	0	0	0	0	125	36	205	238	166	769	1.21
		R	0.00	0.00	0.00	0.00	0.00	3.13	1.07	8.48	11.17	10.09	3.63	
GENITOURINARY DISEASE	580-629	#	0	0	0	0	0	0	0	0	44	29	72	1.09
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.04	1.73	0.34	
DISEASES OF SKIN & SUBCUTANEOUS TISSUE	680-709	#	0	0	0	0	0	0	0	0	0	0	0	1.73
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	
MUSKULOSKELETAL & CONNECTIVE TISSUE	710-739	#	0	0	0	0	0	0	0	0	0	0	0	
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
CONGENITAL ANOMALIES	740-759	#	1118	145	0	0	0	0	35	23	14	0	1333	1.86
		R	339.15	5.22	0.00	0.00	0.00	0.00	1.04	0.93	0.63	0.00	6.29	
PERINATAL CONDITIONS	760-779	#	820	0	0	0	0	0	0	0	0	0	820	1.15
		R	248.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.87	
ILL DEFINED CONDITIONS	780-799	#	75	71	0	168	260	457	826	418	447	106	2825	1.42
	2.54	R	22.61	2.54	0.00	11.36	15.43	11.50	24.80	17.32	20.98	6.44	13.33	

# = years of potential life lost; R = rate per 1,000 population based on 1986 census; SMR = standardized morbidity ratio.

Source: Ontario Ministry of Health, Information Systems Division, 1986-1990 Morbidity and Mortality Reports, 1992.

Exhibit 3.2.8. Potential Years of Life Lost for Hamilton-Wentworth Residents, by Age and by Cause of Death, 1990 (continued)

Diagnosis	ICD-9 Code	# R	Age Group (Years) < 1	1-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	TOTAL	SMR
MALES CONTINUED:														
INJURIES AND POISONING	800-999	#	149	141	61	343	425	717	621	197	117	64	2834	0.90
		R	45.22	5.08	4.22	23.25	25.28	18.05	18.64	8.17	5.47	3.89	13.37	
EXTERNAL CAUSES, (SUPPLEMENTARY CLASS)	E800-999	#	149	141	61	343	425	717	621	197	117	64	820	0.90
		R	45.22	5.08	4.22	23.25	25.28	18.05	18.64	8.17	5.47	3.89	13.37	
. MOTOR VEHICLE CRASHES	E810-819	#	0	0	61	113	211	187	227	0	17	5	23	0.84
		R	0.00	0.00	4.22	7.66	12.55	4.71	6.82	0.00	0.77	0.27	0.10	
. ACCIDENTAL FALLS	E880-888	#	0	0	0	0	0	0	0	0	0	18	18	0.71
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.49	0.04	
. OTHER ACCIDENTS	E890-928	#	75	141	0	0	55	169	77	24	0	12	552	1.11
		R	22.61	5.08	0.00	0.00	3.24	4.25	2.31	0.97	0.00	0.73	2.60	
. SUICIDE	E950-959	#	0	0	0	172	160	227	132	99	27	13	828	0.80
		R	0.00	0.00	0.00	11.63	9.49	5.70	3.97	4.11	1.27	0.76	3.91	
. HOMICIDE & INJURY ON OTHERS	E960-969	#	75	0	0	0	0	0	0	0	18	0	92	0.63
		R	22.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.43	
MAIN CAUSE TOTALS MALES	001-999	#	2235	423	186	627	944	1834	2257	2862	4747	2581	18693	1.05
		R	678.30	15.23	12.95	42.47	56.14	46.15	67.78	118.69	222.74	156.77	88.23	
FEMALES:														
INFECTIOUS DISEASES	001-139	#	0	0	0	0	54	0	34	0	13	23	122	1.06
		R	0.00	0.00	0.00	0.00	0.06	0.00	0.03	0.00	0.04	0.15	0.05	
NEOPLASMS	140-239	#	0	69	0	0	105	394	606	992	1253	745	4162	1.07
		R	0.00	2.57	0.00	0.00	6.16	9.87	17.44	41.42	55.59	36.86	19.26	
ENDOCRINE, METABOLISM, NUTRITION & IMMUNE SYSTEM	240-279	#	0	72	0	0	54	47	0	82	27	15	295	0.52
		R	0.00	2.68	0.00	0.00	3.14	1.17	0.00	3.41	1.20	0.74	1.37	
BLOOD AND BLOOD FORMING ORGANS	280-289	#	0	0	0	0	0	0	0	0	11	13	23	1.44
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.62	0.11	
MENTAL DISORDERS	290-319	#	0	68	0	0	0	0	0	0	30	11	108	0.76
		R	0.00	2.53	0.00	0.00	0.00	0.00	0.00	0.00	1.33	0.52	0.50	

# = years of potential life lost; R = rate per 1,000 population based on 1986 census; SMR = standardized morbidity ratio

Source: Ontario Ministry of Health, Information Systems Division, 1986-1990 Morbidity and Mortality Reports, 1992.

Exhibit 3.2.8. Potential Years of Life Lost for Hamilton-Wentworth Residents, by Age and by Cause of Death, 1990 (continued)

Diagnosis	ICD-9 Code	# / R	< 1	1-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	TOTAL	SMR
FEMALES CONTINUED:														
NERVOUS SYSTEM &	320-389	#	0	0	0	56	0	0	0	53	33	40	182	0.74
SENSE ORGANS		R	0.00	0.00	0.00	3.86	0.00	0.00	0.00	2.21	1.46	1.98	0.84	
CIRCULATORY SYSTEM	390-459	#	75	0	0	0	0	0	0	257	535	526	1392	1.06
		R	24.43	0.00	0.00	0.00	0.00	0.00	0.00	10.72	23.75	26.04	6.44	
RESPIRATORY DISEASE	460-519	#	0	0	0	0	0	92	75	48	97	93	405	1.09
		R	0.00	0.00	0.00	0.00	0.00	2.31	2.16	2.01	4.28	4.60	1.87	
DIGESTIVE DISEASE	520-579	#	75	0	0	0	0	42	31	0	73	59	278	1.14
		R	24.43	0.00	0.00	0.00	0.00	1.04	0.88	0.00	3.22	2.90	1.28	
GENITOURINARY DISEASE	580-629	#	0	0	0	0	0	0	66	0	33	28	127	1.50
		R	0.00	0.00	0.00	0.00	0.00	0.00	1.90	0.00	1.46	1.39	0.59	
COMPLICATIONS OF	630-648	#	0	0	0	0	0	0	0	0	0	0	0	
PREGNANCY	651-676	R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
DISEASES OF SKIN &	680-709	#	0	0	0	0	0	0	0	0	0	0	1	0.37
SUBCUTANEOUS TISSUE		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
MUSKULOSKELETAL &	710-739	#	0	0	0	0	0	0	0	25	20	0	44	0.95
CONNECTIVE TISSUE		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.02	0.87	0.00	0.20	
CONGENITAL ANOMALIES	740-759	#	447	0	0	0	0	0	0	26	31	0	504	1.35
		R	146.56	0.00	0.00	0.00	0.00	0.00	0.00	1.07	1.38	0.00	2.33	
PERINATAL CONDITIONS	760-779	#	745	0	0	0	0	0	0	0	0	0	745	1.23
		R	244.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.45	
ILL DEFINED CONDITIONS	780-799	#	298	138	0	113	54	269	175	127	76	52	70	1.01
		R	97.70	5.18	0.00	7.85	3.14	6.74	5.02	5.29	3.35	2.55	6.02	
INJURIES & POISONING	800-999	#	75	73	0	60	51	221	242	94	56	15	884	0.81
		R	24.43	2.72	0.00	4.13	2.96	5.53	6.95	3.93	2.49	0.74	4.09	
EXTERNAL CAUSES,	E800-999	#	75	73	0	60	51	221	242	94	56	15	884	0.81
(SUPPLEMENTARY CLASS)		R	24.43	2.72	0.00	4.13	2.96	5.53	6.95	3.93	2.49	0.74	4.09	
. MOTOR VEHICLE ACCIDENTS	E810-819	#	0	0	0	0	51	45	103	24	14	0	235	0.70
		R	0.00	0.00	0.00	0.00	2.96	1.12	2.95	0.98	0.60	0.00	1.09	
. ACCIDENTAL FALLS	E880-888	#	0	0	0	0	0	0	0	0	0	0	18	0.78
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	

# = years of potential life lost; R = rate per 1,000 population based on 1986 census; SMR = standardized morbidity

Source: Ontario Ministry of Health, Information Systems Division, 1986-1990 Morbidity and Mortality Reports, 1992.

Exhibit 3.2.8. Potential Years of Life Lost for Hamilton-Wentworth Residents, by Age and by Cause of Death, 1990 (continued)

Diagnosis	ICD-9 Code	# R	Age Group (Years) < 1	1-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	TOTAL	SMR
FEMALES CONTINUED:														
. OTHER ACCIDENTS	E890-928	#	75	73	0	0	0	0	0	0	11	8	165	0.71
		R	24.43	2.72	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.37	0.76	
. SUICIDE	E950-959	#	0	0	0	60	0	89	100	50	32	8	338	1.15
		R	0.00	0.00	0.00	4.13	0.00	2.23	2.86	2.09	1.42	0.37	1.56	
. HOMICIDE & INJURY ON OTHERS	E960-969	#	0	0	0	0	0	41	40	0	0	0	80	1.02
		R	0.00	0.00	0.00	0.00	0.00	1.02	1.14	0.00	0.00	0.00	0.37	
MAIN CAUSE TOTALS FEMALES	001-999	#	1714	418	0	228	316	1063	1227	1701	2285	1617	10568	1.03
		R	561.80	15.69	0.00	15.84	18.53	26.65	35.32	71.07	101.40	80.05	48.92	
TOTAL POPULATION:														
INFECTIOUS DISEASES	001-139	#	0	0	0	0	54	135	177	30	99	43	536	0.96
		R	0.00	0.00	0.00	0.00	1.58	1.69	2.59	0.61	2.25	1.17	1.25	
NEOPLASMS	140-239	#	0	69	64	0	310	526	917	1942	3016	1649	8491	1.05
		R	1.26	2.28	0.04	0.00	9.15	6.61	13.47	40.41	68.78	44.98	19.84	
ENDOCRINE, METABOLIC, NUTRITION, & IMMUNE SYSTEM	240-279	#	0	72	0	59	54	47	112	102	64	53	560	0.63
		R	0.00	1.31	0.00	2.01	1.58	0.58	1.64	2.12	1.45	1.45	1.31	
BLOOD AND BLOOD FORMING ORGANS	280-289	#	0	0	0	0	0	0	0	51	11	22	84	1.28
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.06	0.24	0.60	0.20	
MENTAL DISORDERS	290-319	#	0	68	0	0	0	0	40	51	84	28	270	0.75
		R	0.00	1.24	0.00	0.00	0.00	0.00	0.58	1.06	1.90	0.76	0.63	
NERVOUS SYSTEM & SENSE ORGANS	320-389	#	0	0	62	113	0	46	34	149	154	84	640	0.96
		R	0.00	0.00	2.20	3.88	0.00	0.57	0.49	3.10	3.51	2.28	1.50	
CIRCULATORY SYSTEM	390-459	#	75	67	0	0	55	140	103	1058	2181	1515	5191	1.04
		R	11.74	1.22	0.00	0.00	1.61	1.75	1.51	22.02	49.74	41.31	12.13	
RESPIRATORY DISEASE	460-519	#	75	0	0	0	0	175	75	69	279	287	959	1.04
		R	11.74	0.00	0.00	0.00	0.00	2.20	1.10	1.43	6.36	7.83	2.24	
DIGESTIVE DISEASE	520-579	#	75	0	0	0	0	166	66	205	311	225	1046	1.18
		R	11.74	0.00	0.00	0.00	0.00	2.09	0.97	4.26	7.08	6.12	2.44	

# = years of potential life lost; R = rate per 1,000 population based on 1986 census; SMR = standardized morbidity ratio.

Source: Ontario Ministry of Health, Information Systems Division, 1986-1990 Morbidity and Mortality Reports, 1992.

Exhibit 3.2.8. Potential Years of Life Lost for Hamilton-Wentworth Residents, by Age and by Cause of Death, 1990 (continued)

Diagnosis	ICD-9 Code	# R	Age Group (Years) < 1	1-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	TOTAL	SMR
TOTAL POPULATION CONTINUED:														
GENITOURINARY DISEASE	580-629	#	0	0	0	0	0	0	66	0	77	57	199	1.29
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.97	0.00	1.74	1.54	0.47	
COMPLICATIONS OF PREGNANCY	630-649	#	0	0	0	0	0	0	0	0	0	0	0	
	751-776	R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
DISEASES OF SKIN & SUBCUTANEOUS TISSUE	680-709	#	0	0	0	0	0	0	0	0	0	0	3	0.77
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	
MUSKULOSKELETAL & CONNECTIVE TISSUE	710-739	#	0	0	0	0	0	0	0	25	20	0	45	0.68
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.44	0.00	0.10	
CONGENITAL ANOMALIES	740-759	#	1565	145	0	0	0	0	35	48	45	0	1837	1.61
		R	246.57	2.66	0.00	0.00	0.00	0.00	0.51	1.00	1.02	0.00	4.29	
PERINATAL CONDITIONS	760-779	#	1565	0	0	0	0	0	0	0	0	0	1565	1.19
		R	246.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.66	
ILL DEFINED CONDITIONS	780-799	#	373	209	0	281	313	726	1000	544	523	158	4125	1.24
		R	58.71	3.83	0.00	9.63	9.24	9.12	14.70	11.32	11.92	4.30	9.64	
INJURIES & POISONING	800-999	#	224	214	61	403	476	938	862	291	173	79	3718	0.87
		R	35.22	3.92	2.17	13.81	14.04	11.78	12.67	6.06	3.93	2.15	8.69	
EXTERNAL CAUSES (SUPPLEMENTARY CLASS)	E800-999	#	224	214	61	403	476	938	862	291	173	79	3718	0.87
		R	35.22	3.92	2.17	13.81	14.04	11.78	12.67	6.06	3.93	2.15	8.69	
. MOTOR VEHICLE CRASHES	E810-819	#	0	0	61	113	262	232	330	24	30	5	1054	0.79
		R	0.00	0.00	2.17	3.88	7.72	2.91	4.84	0.49	0.68	0.12	2.46	
. ACCIDENTAL FALLS	E880-888	#	0	0	0	0	0	0	0	0	0	18	18	0.75
		R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.49	0.04	
. OTHER ACCIDENTS	E890-928	#	149	214	0	0	55	169	77	24	11	20	717	0.98
		R	23.48	3.92	0.00	0.00	1.61	2.12	1.13	0.49	0.24	0.53	1.67	
. SUICIDE	E950-959	#	0	0	0	231	160	316	232	149	59	20	1166	0.88
		R	0.00	0.00	0.00	7.93	4.71	3.96	3.40	3.10	1.35	0.55	2.72	
. HOMICIDE & INJURY ON OTHERS	E960-969	#	75	0	0	0	0	41	40	0	18	0	172	0.78
		R	11.74	0.00	0.00	0.00	0.00	0.51	0.58	0.00	0.40	0.00	0.40	
MAIN CAUSE TOTALS	001-999	#	3949	841	186	855	1260	2897	3484	4563	7031	4198	29261	1.04
TOTAL POPULATION		R	622	15	7	29	37	36	51	95	160	114.50	68.39	

# = years of potential life lost; R = rate per 1,000 population based on 1986 census; SMR = standardized morbidity ratio.

Source: Ontario Ministry of Health, Information Systems Division, 1986-1990 Morbidity and Mortality Reports, 1992.

Notes to Accompany Exhibits 3.1.4, 3.1.5, 3.2.6 and 3.2.8

Introduction

The Morbidity and Mortality Statistics Report of Ontario (1986-1990) has been produced by the Information, Planning, and Evaluation Branch in collaboration with the Public Health Branch of the Ministry of Health. This report covers a five year period from 1986 to 1990. It is the second trend report produced for distribution to local health departments and district health councils. For the purposes of the Fact Book, we have reduced the volume of this data by including only 1990 data.

The documentation that follows has been extracted from the Ministry of Health report to help the users of the Fact Book understand the nature of the statistics included in the report and facilitate their interpretation and use. This documentation includes:

* disease categories
* sources of data
* content of table
* age standardized measures and formulas
* other features of the report

Disease Categories

The diagnostic labels captured in the clinical records of individuals as well as causes of death are all coded using the International Classification of Diseases (ICD). This coding system is the result of international efforts under the auspices of the World Health Organization. Then major revisions have been made to the system since its adoption. The 9th revision is currently being used (ICD-9). Implementation of the 10th revision is anticipated towards the year 2000. The ICD-9 manual contains chapters I - XVII, Supplementary Classification of External Causes of Injury and Poisoning (E-codes) and Supplementary Classification of Factors Influencing Health Status and Contacts with Health Services (V-codes). We have removed the chapter numbers but continue to group the data by ICD-9 categories and sub-categories. In the tables, categories are separated by horizontal lines and sub-categories are denoted by "." preceding the label. For example, in our morbidity tables (3.1.4 and 3.1.5) our first tabulated category is "Infectious Diseases" ICD-9 codes 001 through 130 which contains the sub-category ".AIDS" ICD-9 codes 042 - 044. Note that sub-categories are not included in the mortality tables (3.2.6 and 3.2.8) due to numbers.

Sources of Data

(1) Morbidity

Morbidity data provided are based on hospital separations from the Hospital Medical Records Institute (HMRI). Reported numbers of hospital discharges should be considered only as approximate indicators of disease occurrence or medical care use and not as true morbidity rates. The number of hospital separations or discharges for a given disease refers to number of episodes, not number of inpatients.

(2) Mortality

The Registrar General provides mortality data from medical certificates on causes of death. Mortality data summarize the diseases, injuries, and circumstances leading to death and, where there is more than one, categorize them so that one "underlying" cause can be selected for routine, single-cause analysis. The underlying cause of death has been defined as:

(a) the disease or injury which initiated the train of morbid events leading directly to death; or

(b) the circumstances of the accident or violence which produced the fatal injury.

The mortality statistics files are created by the Office of the Registrar General. Final editing of these files for statistical use in performed by Statistics Canada.

(3) Population

Population figures for Ontario, health regions, and health units were extracted from the 1991 population Census data diskette obtained from Statistics Canada.

Population figures for the under one year of age and by five year age groups at the municipality level are only available in Census years (i.e. 1981, 1986 and 1991). This is why the 1991 census population data are used in this report as denominator data. The 1991 population approximates the population of health units and municipalities for the six-year period covered the overall report.

Concerns have been raised by the Ontario Ministry of Health about under/over estimation of rates by using a single denominator for trends. Staff of the Epidemiology Unit have assessed the magnitude of these problems using the 1986-1990 mortality data. The assessment was done in selected health units where the census population between 1986 and 1991 showed relative population changes. The results indicate that the underestimation of rates is of concern in a few health units that have experienced rapid population growth. To avoid this problem, the Epidemiology Unit is now actively exploring the possibility of obtaining single year estimates at the municipality level from Statistics Canada to be used as denominators. However, for this year's report, the 1991 census population has been used again as denominator to calculate age/sex specific and crude rates.

Content of Fact Book Tables

Four tables have been produced - two of these tables present hospital discharge data and the other two present mortality data.

Hospital separation data are divided into hospital separations from hospital inpatients in Ontario, and hospital days of stay.

Mortality data include number of deaths and potential years of life lost (PYLL) before the age of 75.

3.2. Mortality

List of Tables

Exhibit No.	Table	Title
Morbidity:		
3.14		Hospital Discharges of Hamilton-Wentworth Residents, by Age and by Discharge Diagnosis, 1990.
3.15		Days Spent in Hospital by Hamilton-Wentworth Residents, by Age and by Discharge Diagnosis, 1990.
Mortality:		
3.2.6		Mortality of Hamilton-Wentworth Residents by Age and by Cause of Death, 1990.
3.2.8		Potential Years of Life Lost for Hamilton-Wentworth Residents by Age and by Cause of Death, 1990.

Each of these tables contain: number of events, age and sex specific rate, crude rates, age standardized rates, and the standardized mortality/morbidity ratio (SMR). Examples of the formulas for calculation of age and sex specific rates and crude rates are as follows:

age/sex specific mortality rate of lung cancer for males aged 65 and over =
number of lung cancer deaths among males aged 65 and over ÷ male population X 1000 age 65 and over

age/sex specific morbidity rate of breast cancer for females aged 45-64 =
number of hospital discharges caused by breast cancer among females age 45-64 ÷ female population age 45-64 X 1000

crude mortality rate of ischemic heart disease (IHD) for males =
number of IHD deaths among males of all ages ÷ male population X 1000 of all ages

crude morbidity rate of cerebrovascular disease (CBV) for females =
number of hospital discharges caused by CBV disease in females of all ages ÷ female population of all ages X 1000

crude hospital days of stay rate of cerebrovascular disease for females =
number of hospital days of stay caused by CVB disease in females of all ages ÷ female population of all ages X 1000

Age Standardized Measures and Formulas

While crude rates measure the actual mortality and morbidity level in a population for a given period, they are not an effective tool for comparison. The dependence of the overall mortality and morbidity pattern on population age/sex composition limits the use of crude rates as a comparative tool among different populations or across different periods of time.

Standardization of crude rates is a technique used to overcome this limitation.

The basic principle of standardization is to introduce a standard population with a fixed age and sex structure. For example, an age standardized mortality rate is the overall death rate that a population would have if it had the standard age structure. Age standardized rates are sometimes called age-adjusted rates because standardization is actually a way of adjusting the crude rate to remove the effect of any difference between actual age structure in the population and the standard age structure.

There are two approaches to standardization:

Direct Method: When age-specific mortality rates are available for a health unit, the age-standardized mortality rate (SRATE) is obtained by calculating the weighted average of these age-specific rates, using the number of persons in the respective age groups in the standard population as the weights. It is expressed as:

$SRATE = \Sigma (Pi*mi) / \Sigma (Pi)$

where SRATE is the age-standardized mortality rate,

mi is the age-specific mortality rate in the health unit for persons in age group i,

Pi is the number of persons in age group i in the standard population.

Comparison of different standardized rates is valid only if they are based on the same standard population. There is no single standard population acceptable for all purposes. In all the mortality and morbidity statistics reports produced by the Public Health Branch, the 1971 Canada population of both genders is chosen as the standard. This is done to permit comparisons to national statistics compiled by Statistics Canada, since that is their choice of standard population.

Indirect Method: Indirect standardization is a comparison of observed deaths in a health unit and the number of deaths that would be expected if that health unit had the same mortality rate as the province; it is therefore a ratio rather than a standardized rate. The most commonly used ratio is standardized mortality ratio (SMR):

$SMR = \Sigma (mi*pi) / \Sigma (Mi*pi)$

where SMR is the standardized mortality ratio,

mi is the age-specific mortality rate in a health unit for persons in age group i,

pi is the number of persons in age group i in the same health unit,

Mi is the age-specific mortality rate in the province (i.e. total of all health units) for persons in age group i.

The two standardization approaches described above are also applicable to mortality statistics based on PYLL and to morbidity statistics. This results in age standardized PYLL rate, standardized PYLL ratio, age standardized hospital separation rate, standardized hospital separation ratio, age standardized hospital days of stay rate, and standardized hospital days of stay ratio.

When comparing the mortality or morbidity of a health unit with that of another, SRATE is preferable to SMR because the former is calculated by applying the age-specific mortality rates of each health unit to only one standard population distribution. On the other hand, if the comparison is made between a health unit and the province, then the use of SMR is preferred because the denominators of SMRs (i.e. the expected number of deaths in regions) are all based on one set of age-specific mortality rates, i.e. the provincial experience.

In each of the eight tables included in the present report, both the age standardized rate (SRATE) and the standardized mortality ratio (SMR) are presented.

Classification of Rates and Ratios

The types of rates and ratios in the report are summarized below:

Table (1) Types of Rates and Ratios

Unit of Measurement	Non-Standardized	Standardized
Mortality:		
No. of Deaths	Crude Mortality Rate	SRATE (direct)
	Age-specific Mortality Rate	SMR (indirect)
No. of PYLL	Crude PYLL Rate	Age Standardized PYLL Rate (direct)
	Age-specific PYLL Rate	Standardized PYLL Ratio (indirect)
Morbidity:		
No. of Hospital Discharges	Crude Hospital Separation Rate	Age Standardized Hospital Separation Rate (direct)
	Age-specific Hospital Separation Rate	Standardized Hospital Separation Ratio (indirect)
No. of Hospital Days of Stay	Crude Hospital Days of Stay Rate	Age Standardized Hospital Days of Stay Rate (direct)
	Age-specific Hospital Days of Stay Rate	Standardized Hospital Days of Stay Ratio (indirect)

Other Features of the Report

(1) Use of a single standard population in the calculation of SRATE

The 1971 Canada population of both genders was adopted as the single standard population applied to both the male and female age standardized rates.

(2) Exclusion of unknown cases

Records with unknown causes of death or unknown place of residence have been excluded from the calculations in this report. It is estimated that less than 5% of the records had unknown residence and less than 2% had unknown causes.

(3) Rounding of PYLL

The potential years of life lost indicator (PYLL) is calculated as the difference between the age at death and 75 plus 0.5 year. Decimals always result from these calculations. PYLL figures have been rounded to the nearest integer to avoid decimals.

(4) Recoding of residence for hospital discharge data

Beginning with the 1989 Morbidity and Mortality report, hospital discharge data were recoded to the residence code. As a result, a considerable proportion of previous hospital separations that had been coded based on the reported city of residence (i.e. Toronto) regardless of the actual residential address, were recoded to a different municipality, such as East York, York, etc. Therefore, hospital discharge data for the City of Toronto decreased, particularly for the years between 1986-1988 while data for the other metro municipalities showed an increase.

Exhibit 3.2.9. Estimated ***Tobacco Attributable Mortality**** for ***Selected Regions, Ontario*** and ***Canada***

Region	Tobacco Mortality 1965	Tobacco Mortality 1975	Tobacco Mortality 1985	Tobacco Mortality (1995)**	Estimated Associated Health Care Costs 1989
Brant	68	120	168	215	$4,606,000
Dufferin	9	24	36	50	$948,000
Haldimand-Norfolk	59	107	141	178	$3,985,000
Halton	77	190	295	420	$7,705,000
Hamilton-Wentworth	**304**	**530**	**715**	**923**	**$19,965,000**
Middlesex	167	331	473	642	$12,841,000
Niagara	260	477	630	794	$17,773,000
Ottawa-Carleton	235	482	734	1,026	$19,353,000
Metropolitan Toronto	1,273	2,336	3,148	4,090	$87,960,000
Waterloo	108	234	348	500	$9,264,000
Wellington	55	118	174	242	$4,657,000
Ontario	**4,611**	**8,911**	**12,813**	**12,572**	**$347,000,000**
Canada	**13,000**	**24,000**	**35,000**	**48,000**	**$958,981,000**

*Estimated Tobacco Attributed Mortality = estimated number of deaths from disease assoicated with tobacco use.

** 1995 data presented here are projections based on 1989 data.

Source: Hamilton Regional Cancer Centre; Contact : Dr. Michael Goodyear, 1994

Exhibit 3.3.1. Percent of Hamilton-Wentworth Residents Reporting ***Excellent/Very Good Health****, by ***Age*** and by ***Gender***, 1990

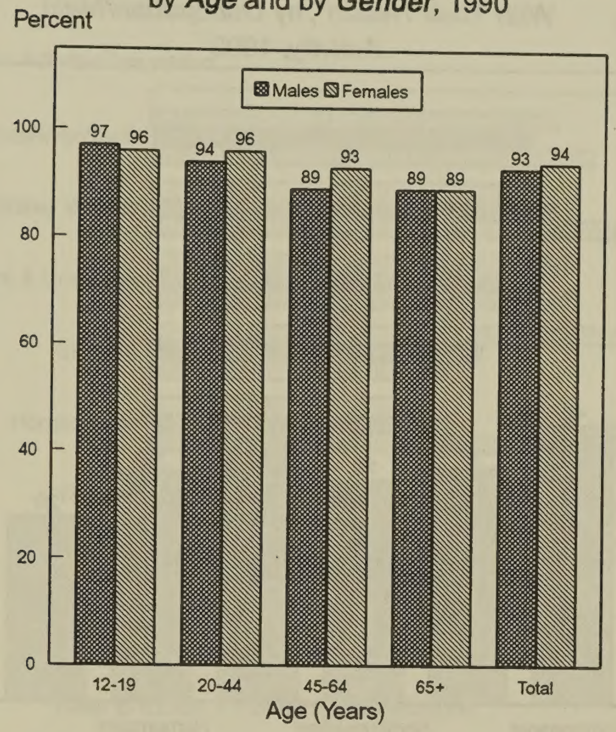
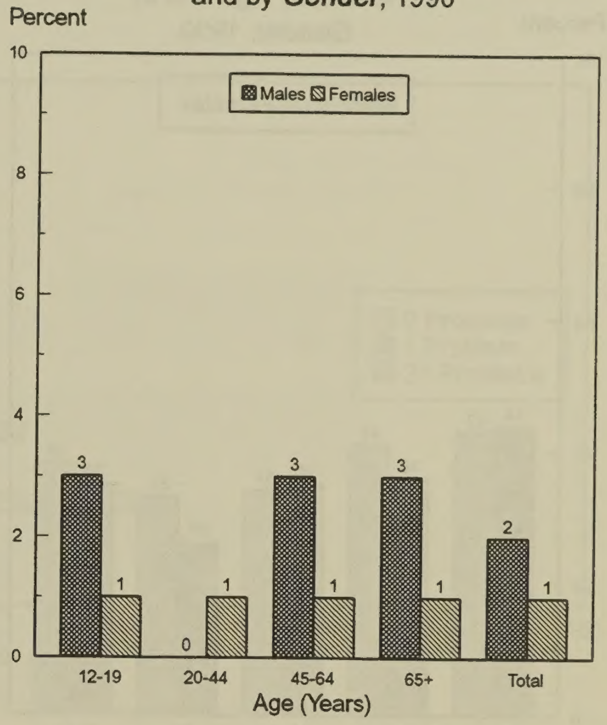


Exhibit 3.3.2. Percent of Hamilton-Wentworth Residents Reporting ***Fair or Poor Health****, by ***Age*** and by ***Gender***, 1990



**Health = respondents rating of their health compared to other persons their age.*

Exhibit 3.3.3. ***Self-Perceived Health**** of Hamilton-Wentworth Residents, by ***Household Income*****, 1990

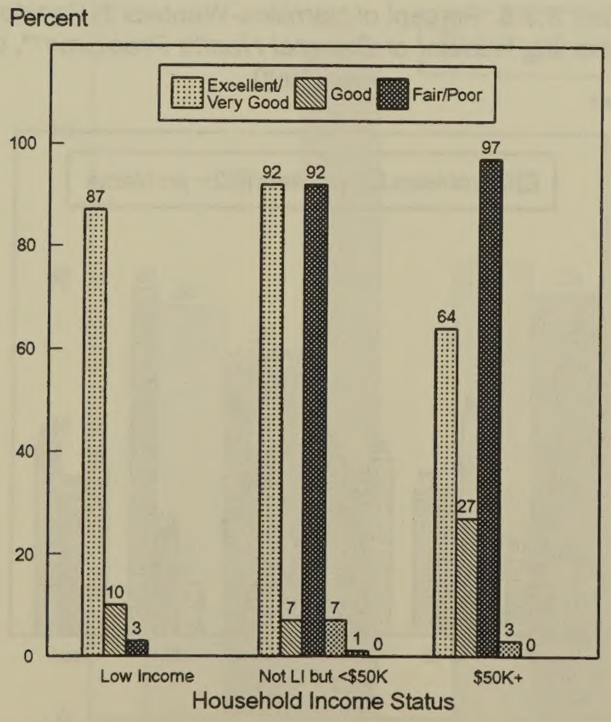
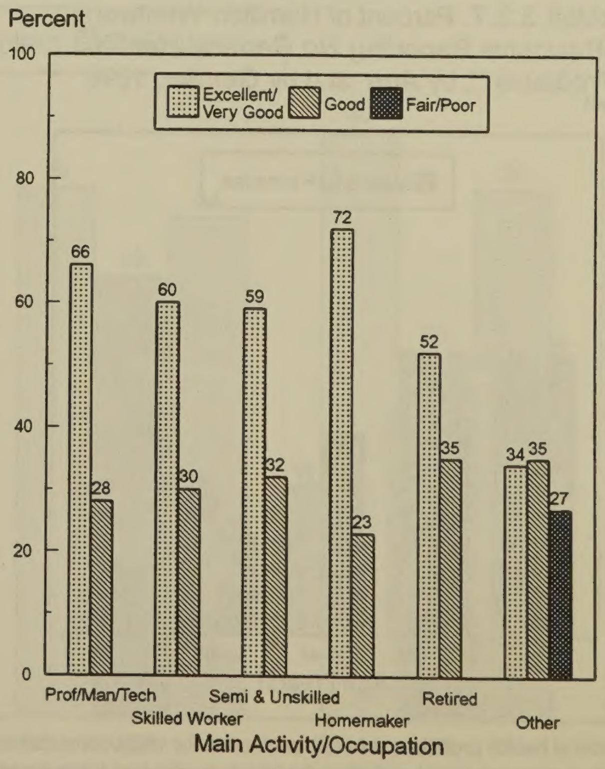


Exhibit 3.3.4. ***Self-Perceived Health**** of Hamilton-Wentworth Residents, by ***Main Occupation*****, 1990



* Small number suppressed.

** Refer to Exhibit 1.2 for definitions of Income and Occupation.

Source: Ministry of Health, 1990 Ontario Health Survey, 1992

Exhibit 3.3.5. Percent of Hamilton-Wentworth Residents Reporting *Very Satisfied* With Health*, by *Age* and by *Gender*, 1990

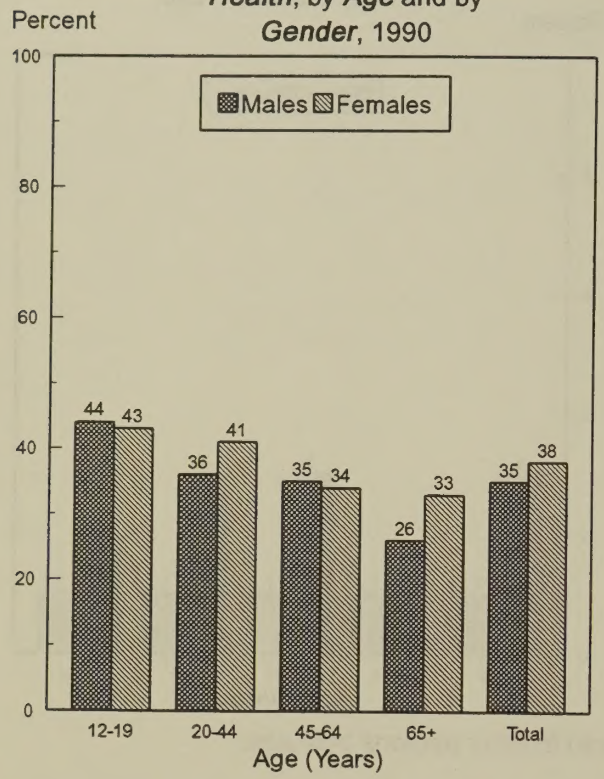
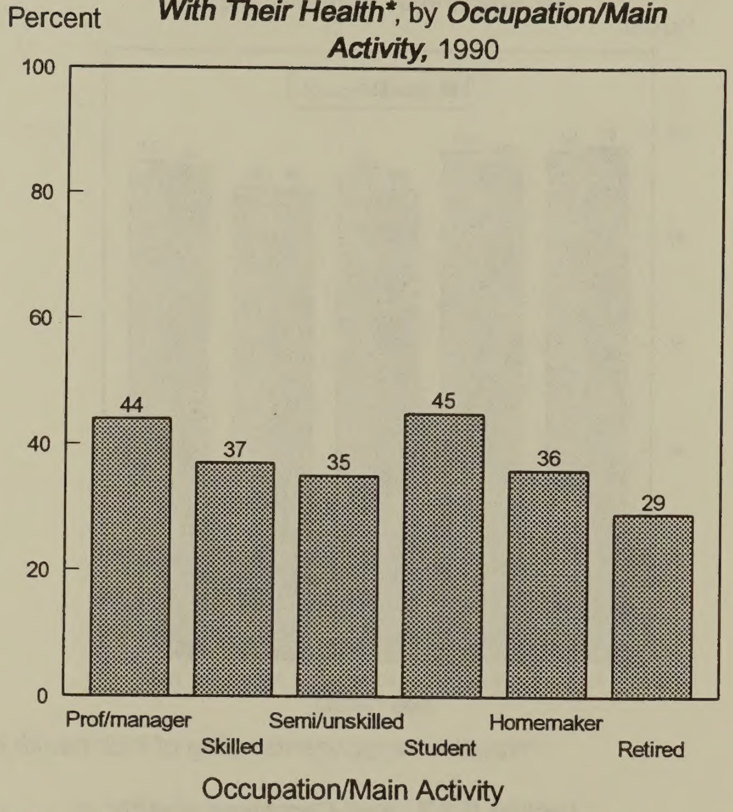


Exhibit 3.3.6. Percent of Hamilton-Wentworth Residents Reporting They Are *Very Satisfied With Their Health**, by *Occupation/Main Activity*, 1990



*Satisfaction with health = respondents rated how satisfied they were with their health as "very", "somewhat", and "not satisfied"; Refer to Exhibit 1.1 for Occupation/Main Activity definitions.

Exhibit 3.3.7. Percent of Hamilton-Wentworth Residents Reporting *No General Health Problems***, by *Age* and by *Gender*, 1990

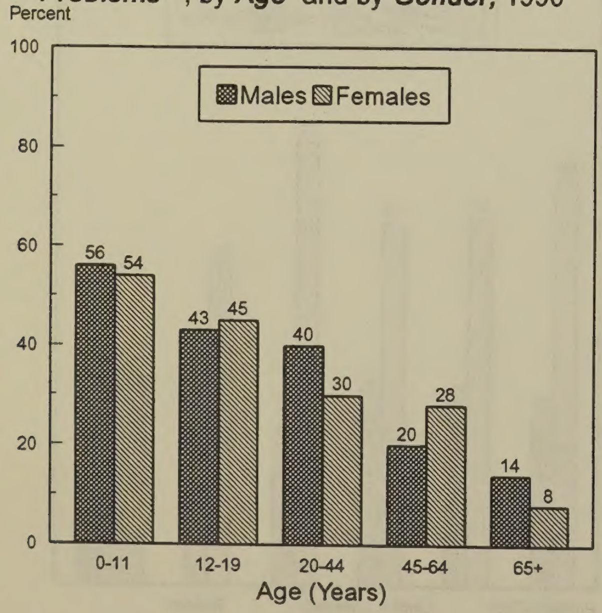
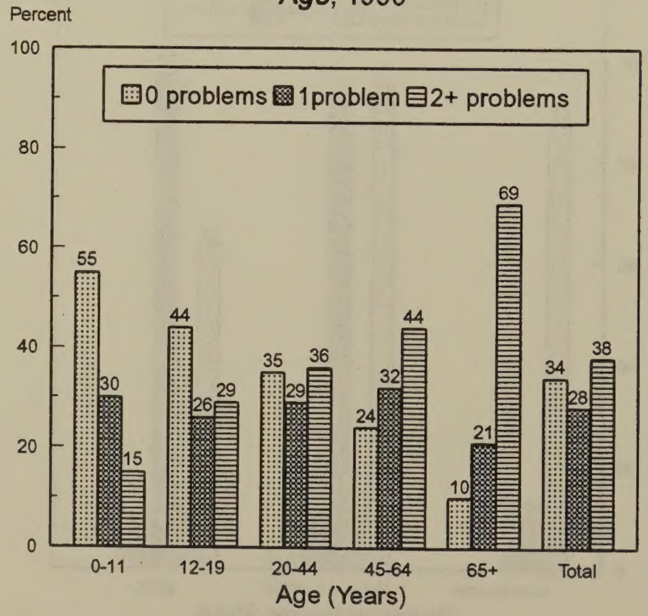


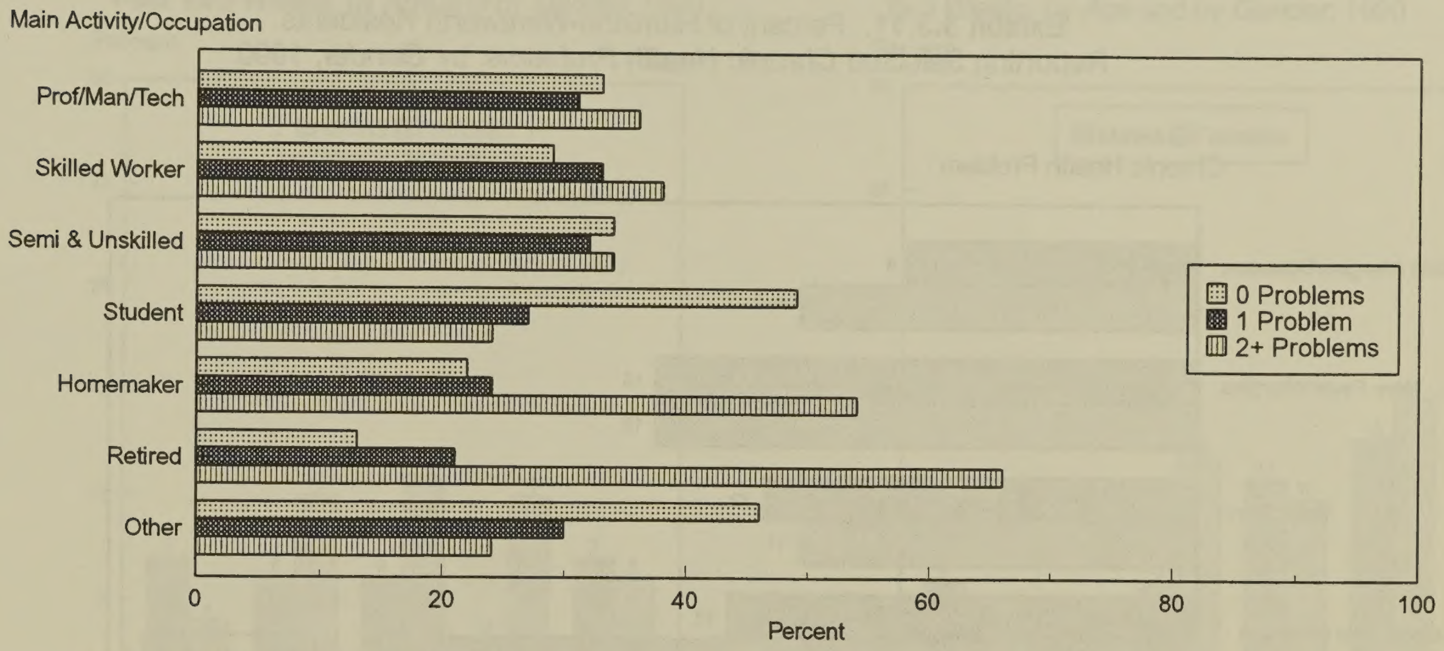
Exhibit 3.3.8. Percent of Hamilton-Wentworth Residents Reporting Number of *General Health Problems***, by *Age*, 1990



** General health problems = health problems: for visits/consultations with health professionals in past 14 days; responsible for staying in bed; cutting down on usual activities; for which medication taken inpast 14 days; injuries resulting from accidents; causing limitations in main activity.

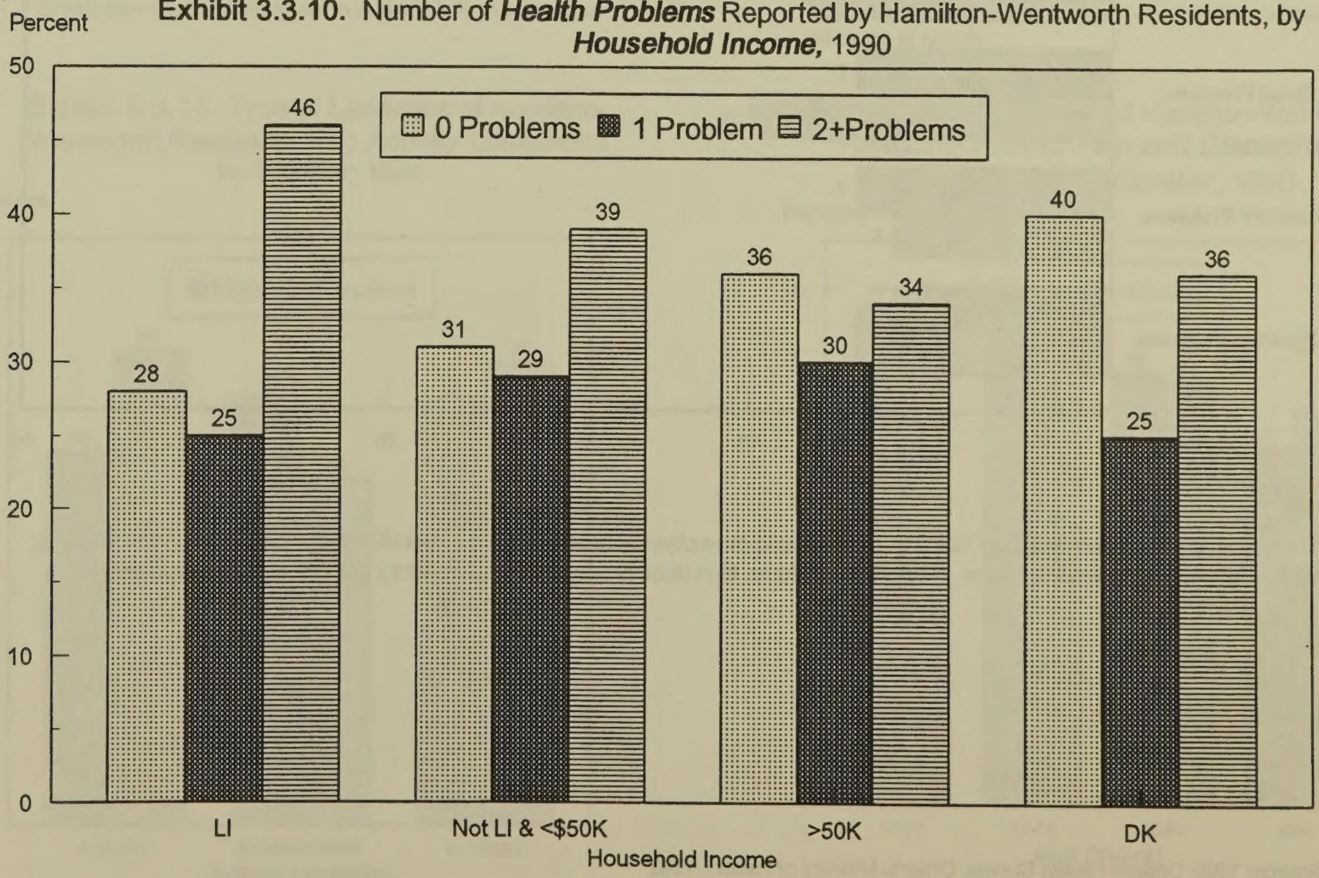
Source: 1990 Ontario Health Survey, Ontario Ministry of Health, 1992

Exhibit 3.3.9. Number of ***General Health Problems**** Reported by Hamilton-Wentworth Residents, by ***Main Activity/Occupation****, 1990



* Refer to Exhibit 1.1 for complete definitions.

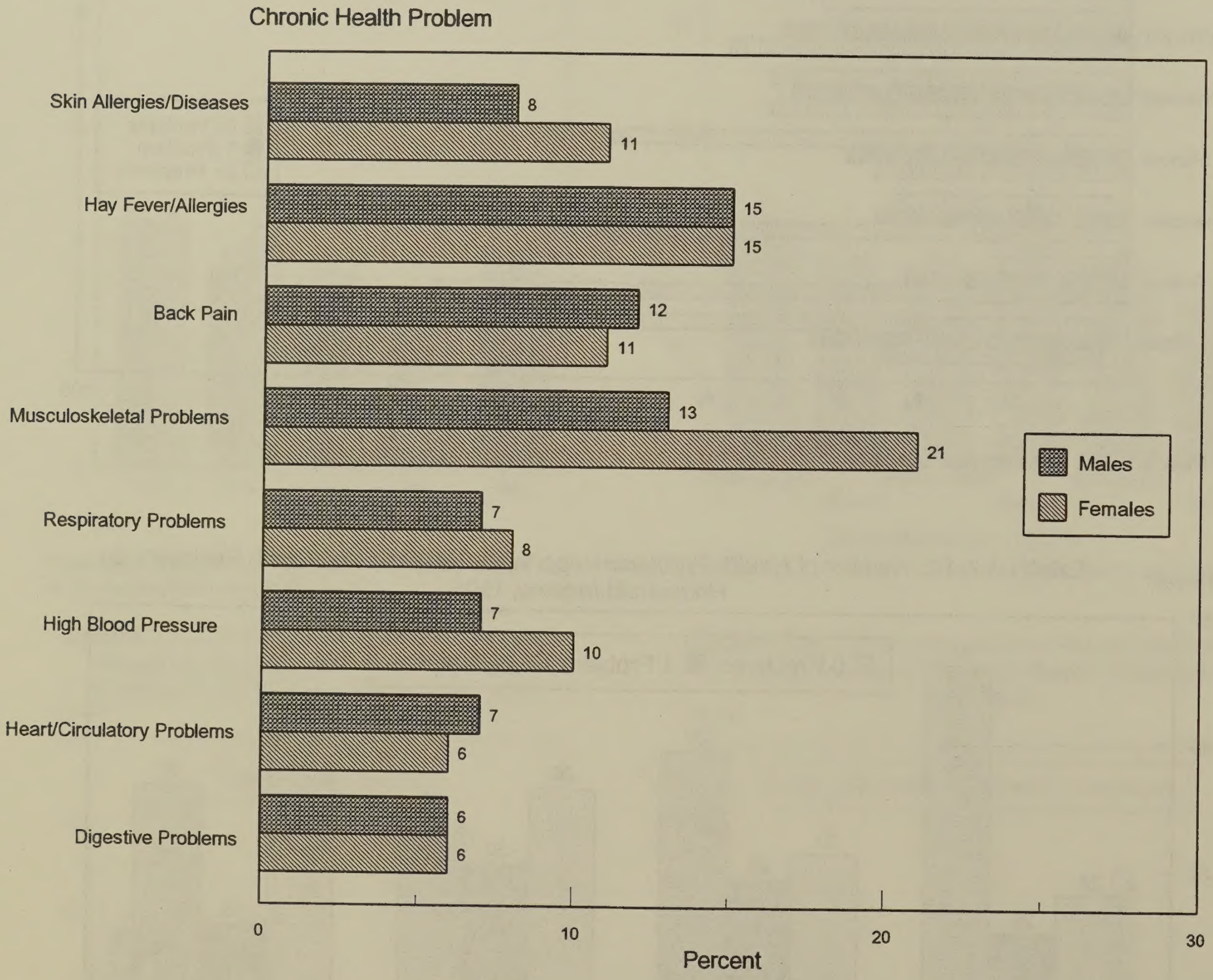
Exhibit 3.3.10. Number of ***Health Problems*** Reported by Hamilton-Wentworth Residents, by ***Household Income,*** 1990



LI=Low Income; DK=Don't Know Household income; Refer to Exhibit 1.1. for definitions.

Source: 1990 Ontario Health Survey, Ontario Ministry of Health, 1992

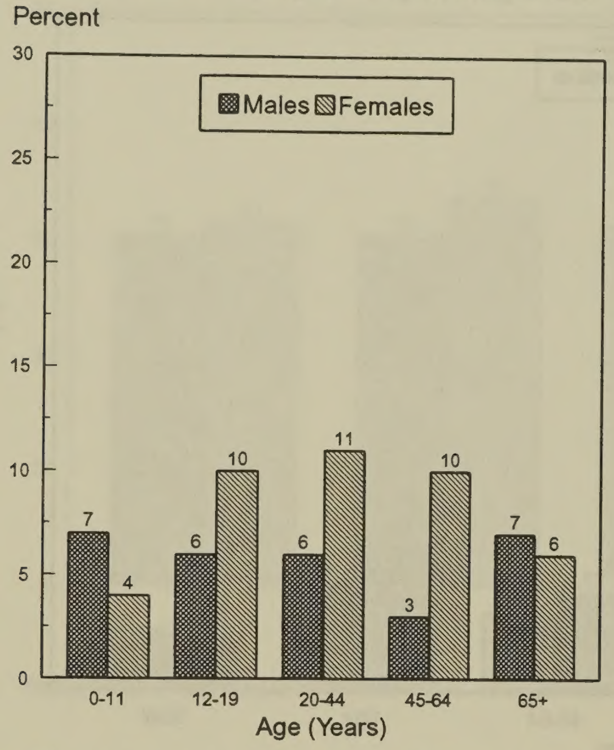
Exhibit 3.3.11. Percent of Hamilton-Wentworth Residents Reporting Selected ***Chronic Health Problems***, by ***Gender***, 1990



* Respondents asked whether they had any of the list long-term physical health problems: skin allergies/diseases; hay fever/allergies; back pain; musculoskeletal problems, respiratory problems, high blood pressure, heart/circulatory problems, digestive problems.

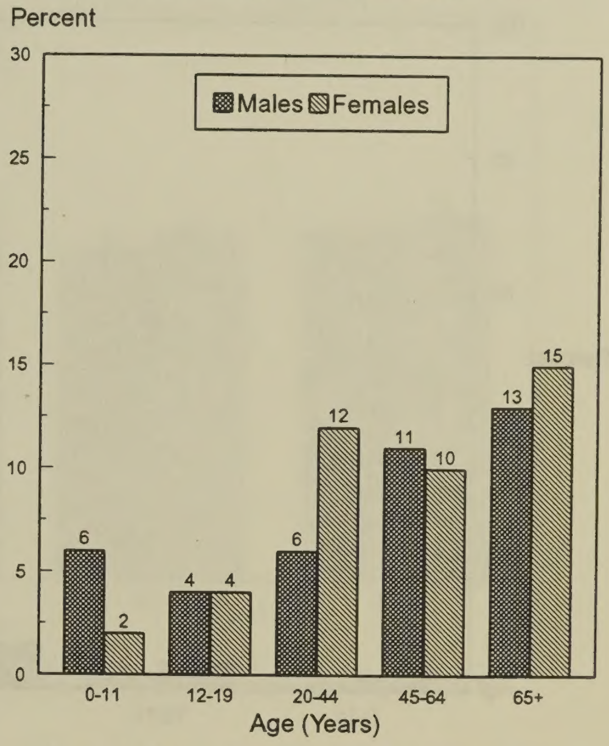
Source: 1990 Ontario Health Survey, Ontario Ministry of Health, 1992

Exhibit 3.3.12. Hamilton-Wentworth Residents Reporting ***One or More Bedridden Days**** Within The ***Past Two Weeks***, by ***Age*** and by ***Gender***, 1990



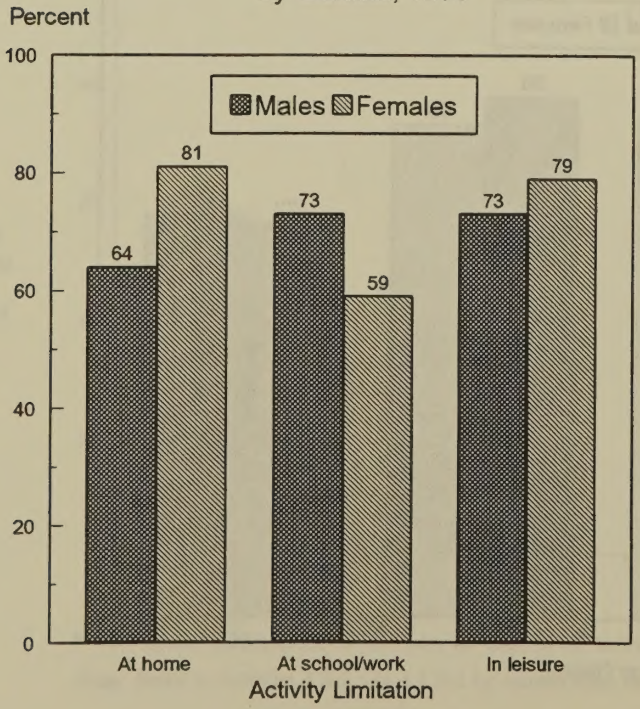
*Bedridden days = days spent in bed (all or most) because of health.

Exhibit 3.3.13. Hamilton-Wentworth Residents Reporting ***One or More Reduced Activity Days**** Within The ***Past Two Weeks***, by ***Age*** and by ***Gender***, 1990



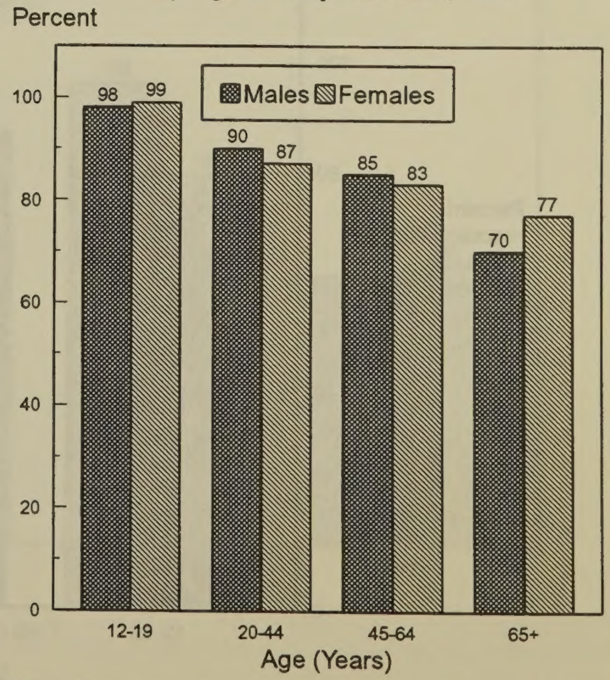
*Reduced activity days = days when activities curtailed because of health.

Exhibit 3.3.14. ***Type*** of ***Limitation*** of Hamilton-Wentworth Residents With ***Activity Limitations***, by ***Gender***, 1990



Source: 1990 Ontario Health Survey, Ontario Ministry of Health, 1992

Exhibit 3.3.15. Percent of Hamilton-Wentworth Residents ***Free of Pain and Discomfort**** by ***Age*** and by ***Gender*** , 1990



*Free of pain and discomfort = Answered "yes" to **"Are you usually free of pain and discomfort?"**

Exhibit 3.3.16. Percent of Hamilton-Wentworth Residents Who Reported ***Limitation in Activity Compared to Others Their Age***, by ***Age*** and by ***Gender***, 1990

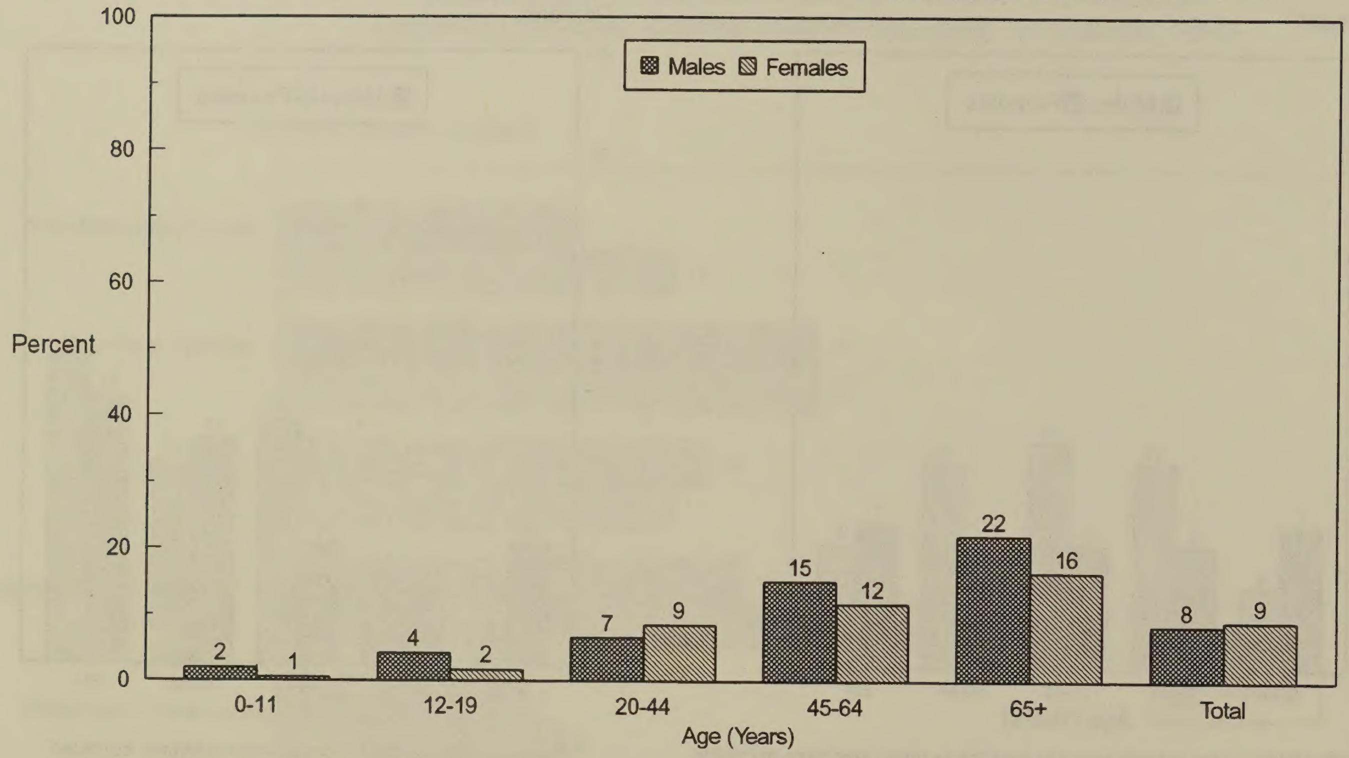
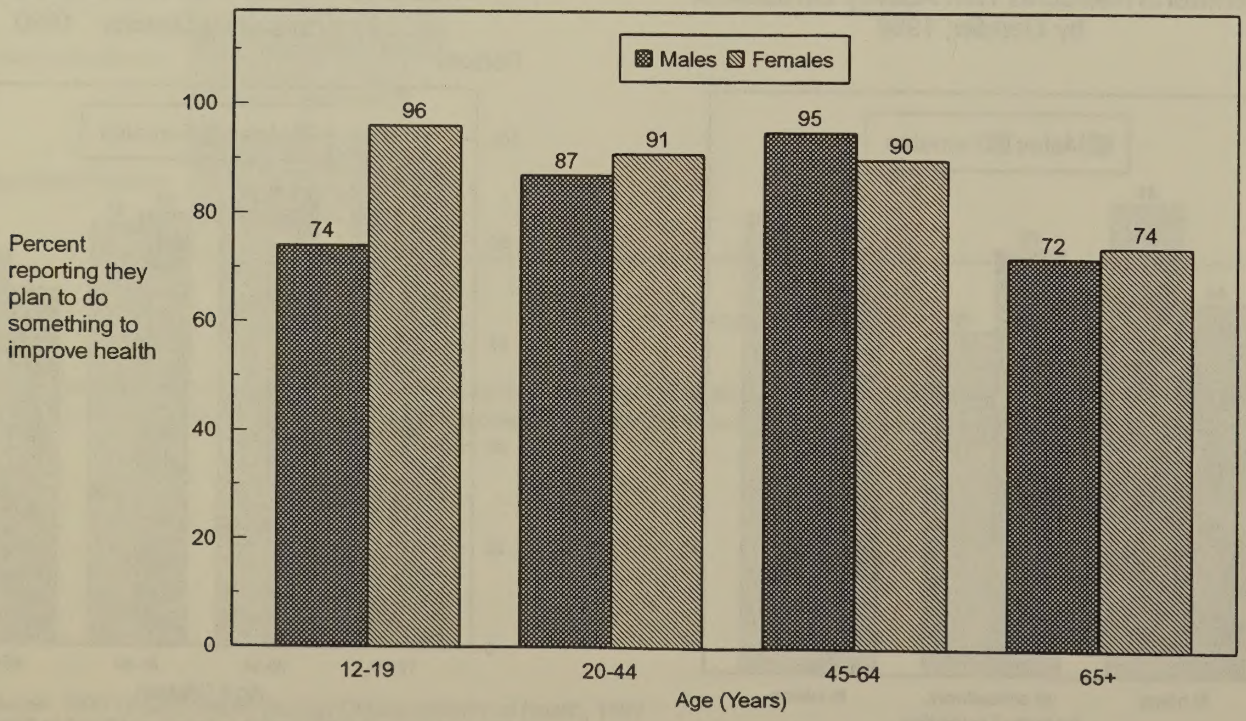
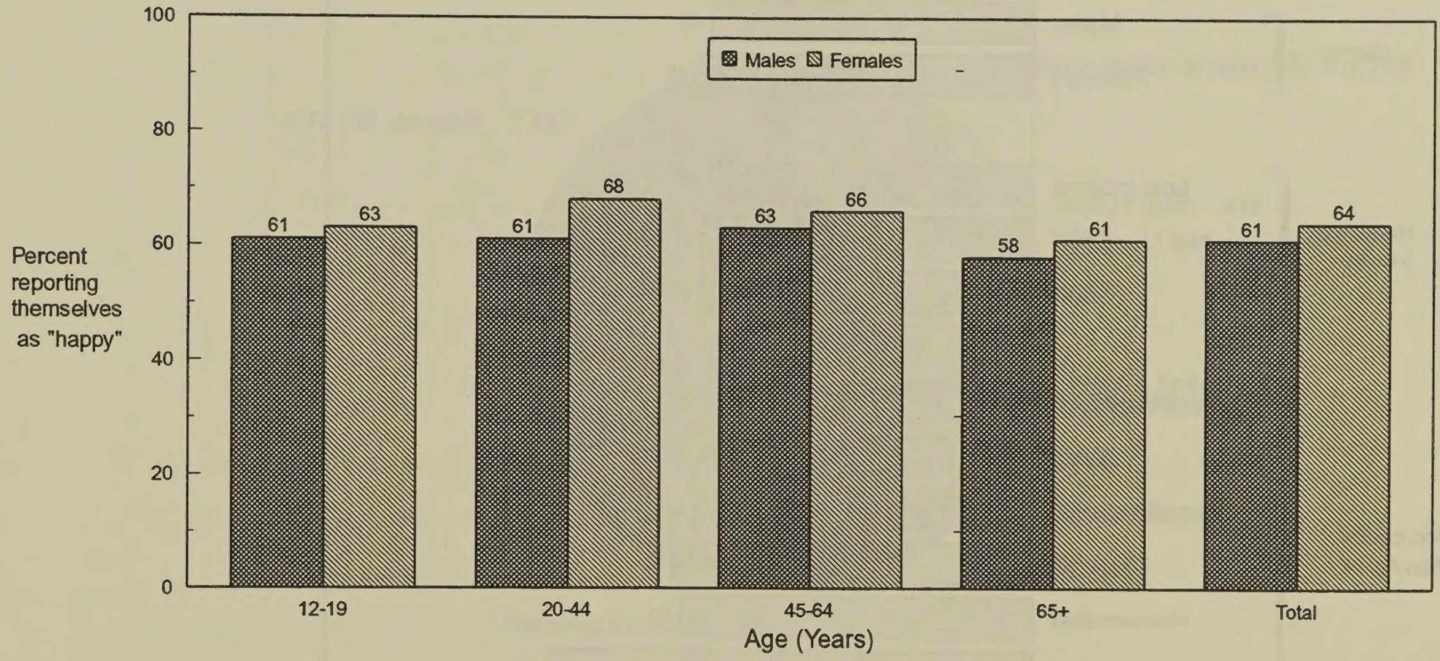


Exhibit 3.3.17. Percent of Hamilton-Wentworth Residents Reporting They ***Plan to do Something to Improve Their Health***, by ***Age*** and by ***Gender***, 1990



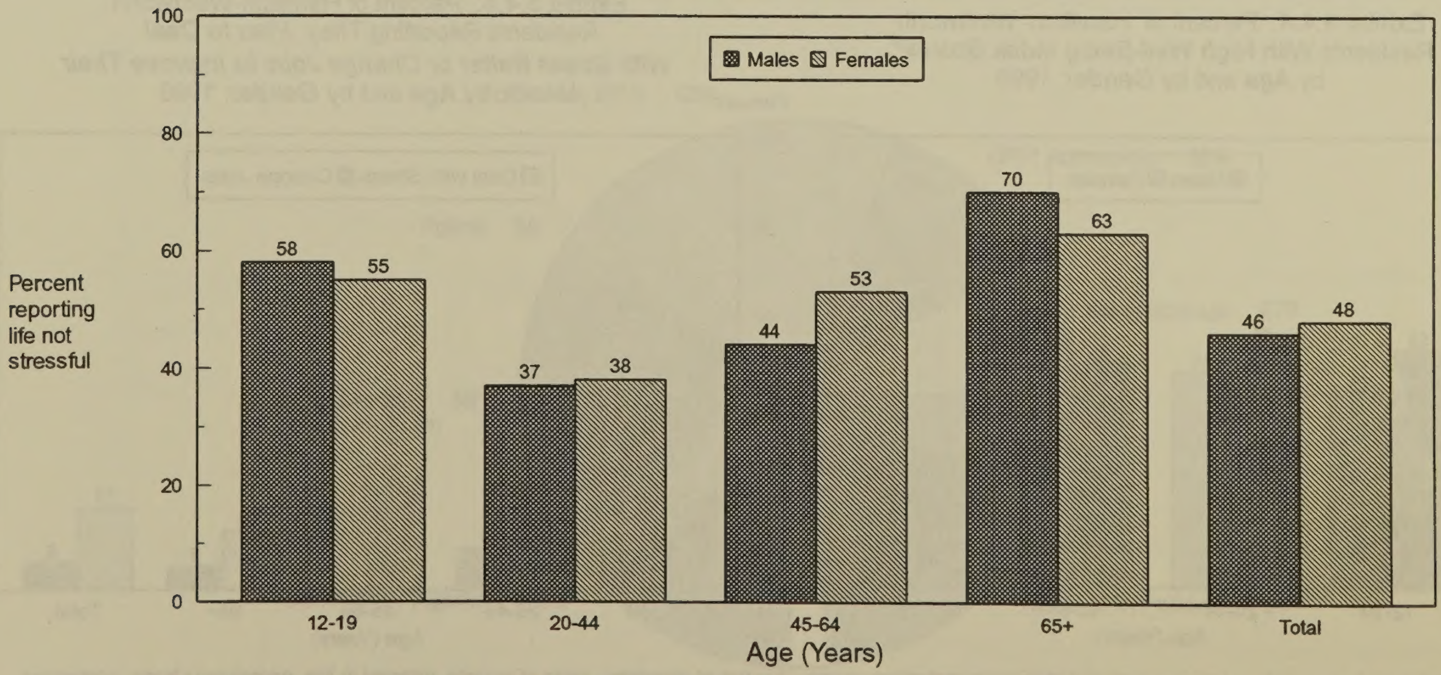
Source: Ontario Ministry of Health, 1990 Ontario Health Survey, 1992.

Exhibit 3.4.1. Percent of Hamilton-Wentworth Residents Reporting ***Happiness****, by ***Age*** and by ***Gender***, 1990



*Happy = answered "happy & interested in life" when asked to indicate which of the statements best described how they usually feel.

Exhibit 3.4.2. Percent of Hamilton-Wentworth Residents Reporting ***Life Not Stressful****** , by ***Age*** and by ***Gender***, 1990

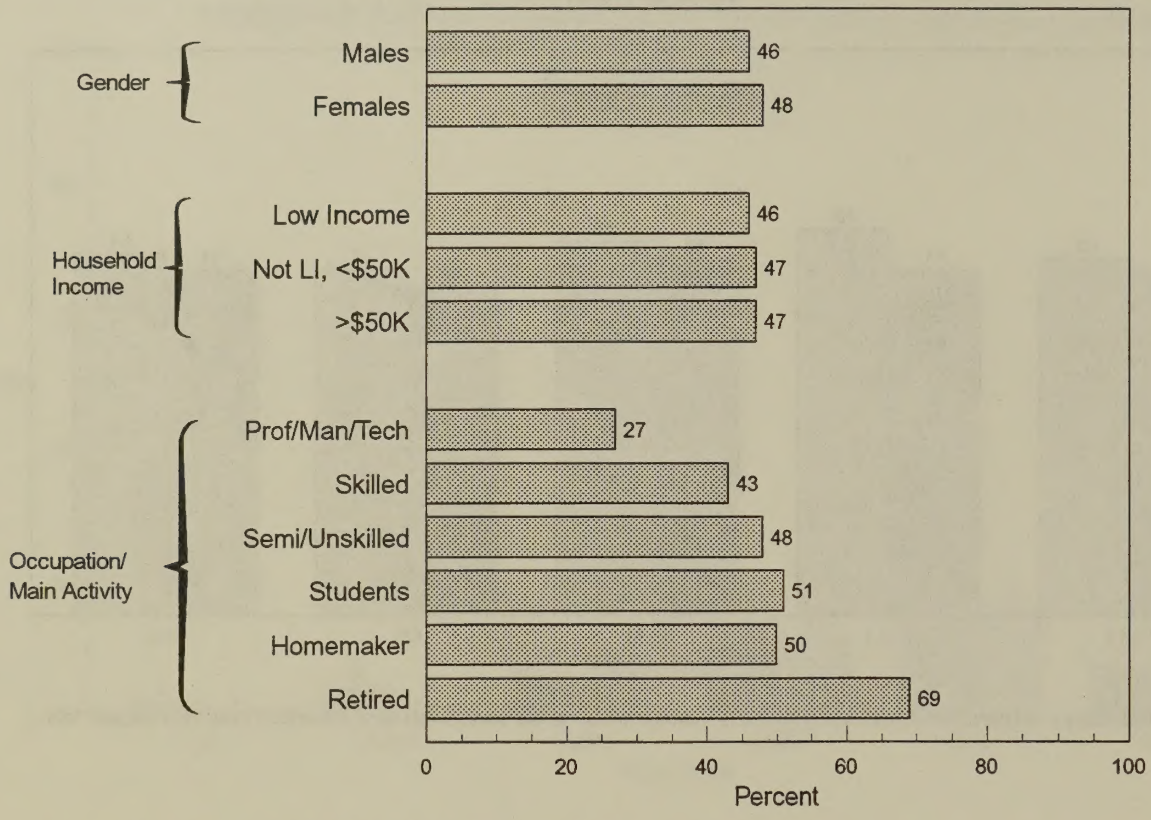


***Not stressful = responded "not very" or "not at all" to "how stressful is you life"?

Note: Refer to Exhibits 4.3.2.1 to 4.3.2.6 for related data on family functioning.

Source: Ontario Ministry of Health, 1990 Ontario Health Survey, 1992.

Exhibit 3.4.3. *Characteristics* of Hamilton-Wentworth Residents Who Report *Life is Not Stressful**, by *Gender*, by *Household Income*, and by *Occupation/Main Activity*, 1990



*Not stressful = responded "not very" or "not at all" to how stressful is your life?

Exhibit 3.4.4. Percent of Hamilton- Wentworth Residents With *High Well-Being Index Scores**, by *Age* and by *Gender*, 1990

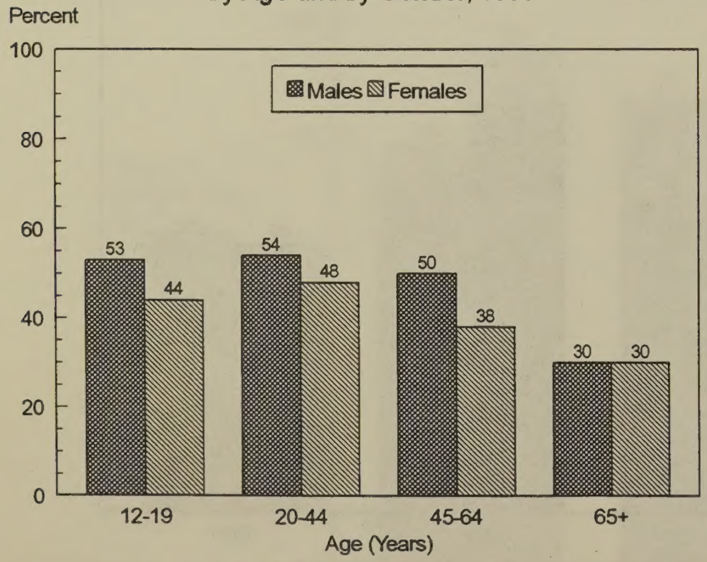
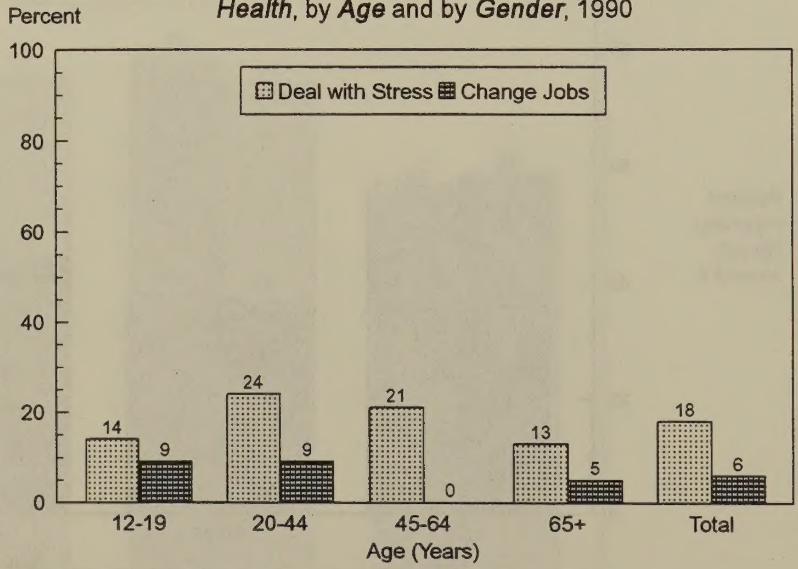


Exhibit 3.4.5. Percent of Hamilton-Wentworth Residents Reporting They *Plan to Deal With Stress Better or Change Jobs to Improve Their Health*, by *Age* and by *Gender*, 1990



*Well-being index scores = assessment of 7 indicators including: energy, control of emotions, state of morale, interest in life, perceived stress, perceived health status, and satisfaction about relationships. (high well-being = 31 to 42 points - Refer to Ontario Health Survey Regional Report Page K7)

Source: Ontario Ministry of Health, 1990 Ontario Health Survey, 1992.

Exhibit 3.4.6. *Emergency Psychiatric Services* (EPS), St. Joseph's Hospital, by ***Referral Source***, 1993

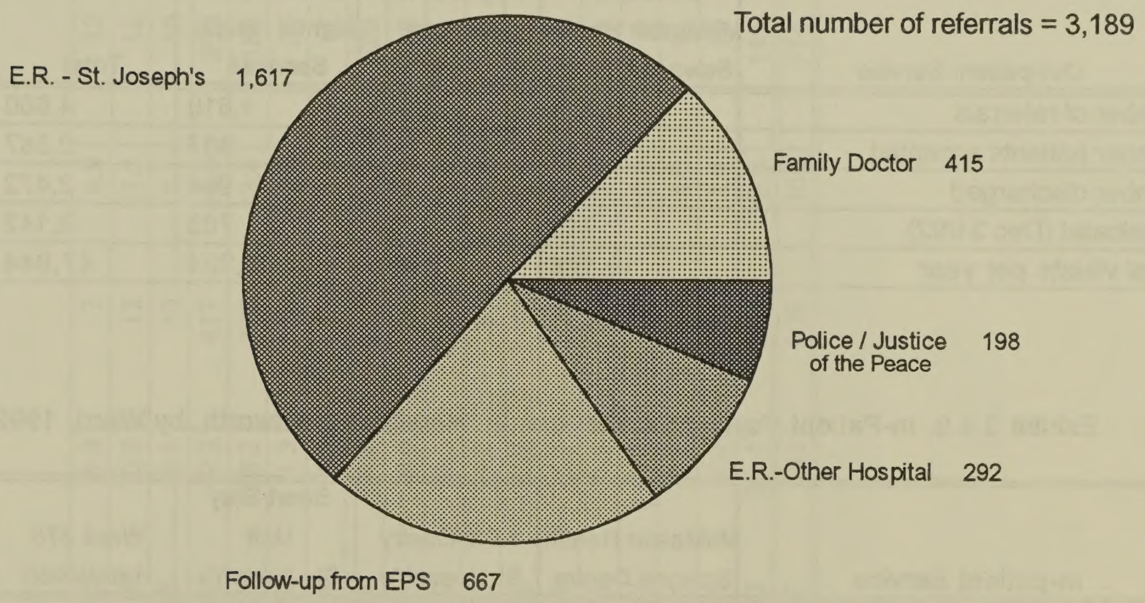
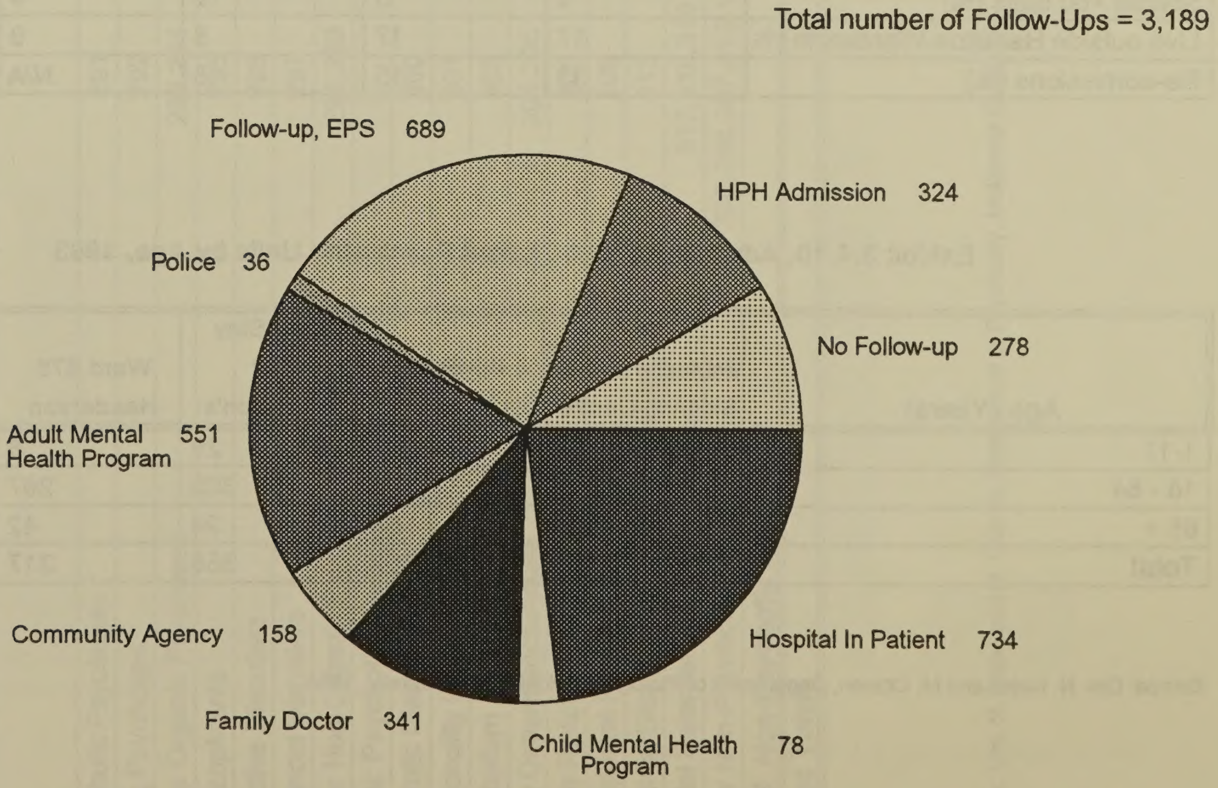


Exhibit 3.4.7. *Emergency Psychiatric Services* (EPS), St. Joseph's Hospital, by ***Follow-Up***, 1993



Source: Drs. N. Kates and M. Craven, Department of Psychiatry, McMaster University, 1994.

Exhibit 3.4.8. Referrals to Out-Patient Mental Health Clinics In Hamilton-Wentworth, by Clinic, 1993

Out-patient Service	3G Clinic McMaster Health Science Centre	Emergency Psychiatriac Services St. Joesph's	East Region Mental Health Services	Total
Number of referrals	1,876	1,144	1,610	4,660
Number patients accepted	740	860	987	2,587
Number discharged	722	786	964	2,472
Caseloaad (Dec 31/92)	713	726	703	2,142
Total visists per year	**15,126**	**13,495**	**18,321**	**47,944**

Exhibit 3.4.9. In-Patient Psychiatric Services In Hamilton-Wentworth, by Ward, 1992-1993

In-patient Service	3A McMaster Health Science Centre	4 Psychiatry St. Joesph's	Short Stay Unit St. Joesph's	Ward 375 Henderson	Average
Average length of stay (days):					
1991-92	25.2	34.0	9.2	34.0	28.3
1992-93	21.2	18.6	7.2	19.4	16.4
Average occupany rate (%)	92	93	95	89	93
Stayed >60 days (%)	4	5	10	4	4
Live outside Hamilton-Wentworth (%	17	17	8	9	13
Re-admissions (%)	33	15	8	N/A	N/A

Exhibit 3.4.10. Admissions to In-Patient Psychiatric Units by Age, 1993

Age (Years)	3A McMaster Health Science Centre	4 Psychiatry St. Joesph's	Short Stay Unit St. Joesph's	Ward 375 Henderson	Hamilton Psychiatric Hospital
1-17	34	27	29	8	2
18 - 64	281	284	305	267	680
65 +	36	58	24	42	45
Total	**351**	**369**	**358**	**317**	**727**

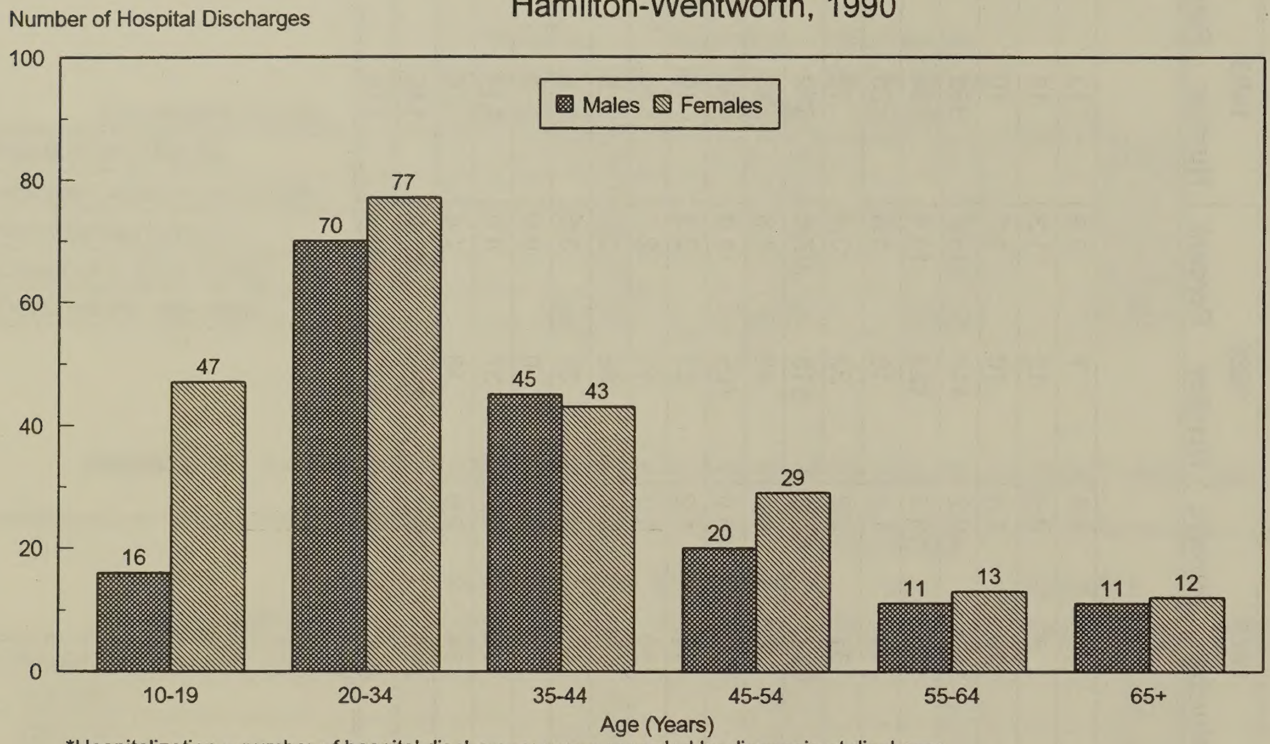
Source: Drs. N. Kates and M. Craven, Department of Psychiatry, McMaster University, 1994.

Exhibit 3.4.11. Number of Discharges from Hamilton Psychiatric Hospital, By Diagnosis, 1979/1986/1993

Diagnosis	ICD-9 Code	1979 Number	1979 Percent	1986 Number	1986 Percent	1993 Number	1993 Percent
Alcoholic Psychoses	291	15	1.8	7	0.8	13	1.7
Drug Psychoses	292	7	0.9	12	1.3	12	1.5
Other Organic Psychoses	293,294	15	1.8	10	1.1	10	1.3
Schizophrenia	295	349	42.2	417	45.6	358	46.1
Affective Disorders	296	109	13.2	123	13.4	184	23.7
Paranoid Disorders	297	11	1.3	16	1.8	25	3.2
Other Non-Organic Psychoses	298,299	31	3.8	28	3.1	17	2.2
Total: Psychotic Disorder		**527**	**64.9**	**613**	**67.0**	**629**	**81.1**
Neurotic Disorders	300	74	9.0	45	4.9	28	3.6
Personality Disorders	301	132	16.0	105	11.9	56	7.2
Alcoholism	303	10	1.2	21	2.3	9	1.2
Drug Dependence/Abuse	304,305	10	1.2	19	2.1	14	1.8
Acute Reaction to Stress	308	9	1.1	26	2.8	8	1.0
Adjustment Reaction	309	15	1.8	30	3.5	6	0.8
Emotinal Disturbance: Childhood/Adolescence	313	2	0.3	0	0.0	0	0.0
Mental Retardation	317,318,319	14	1.7	37	4.0	14	1.8
Other Non-Psychotic Disorder	302,306,307,310-12,316	24	2.9	13	1.4	10	1.3
Total: Non-Psychotic Disorder		**290**	**35.1**	**296**	**33.0**	**145**	**18.6**
Grand Total		817	100	909	100	774	100

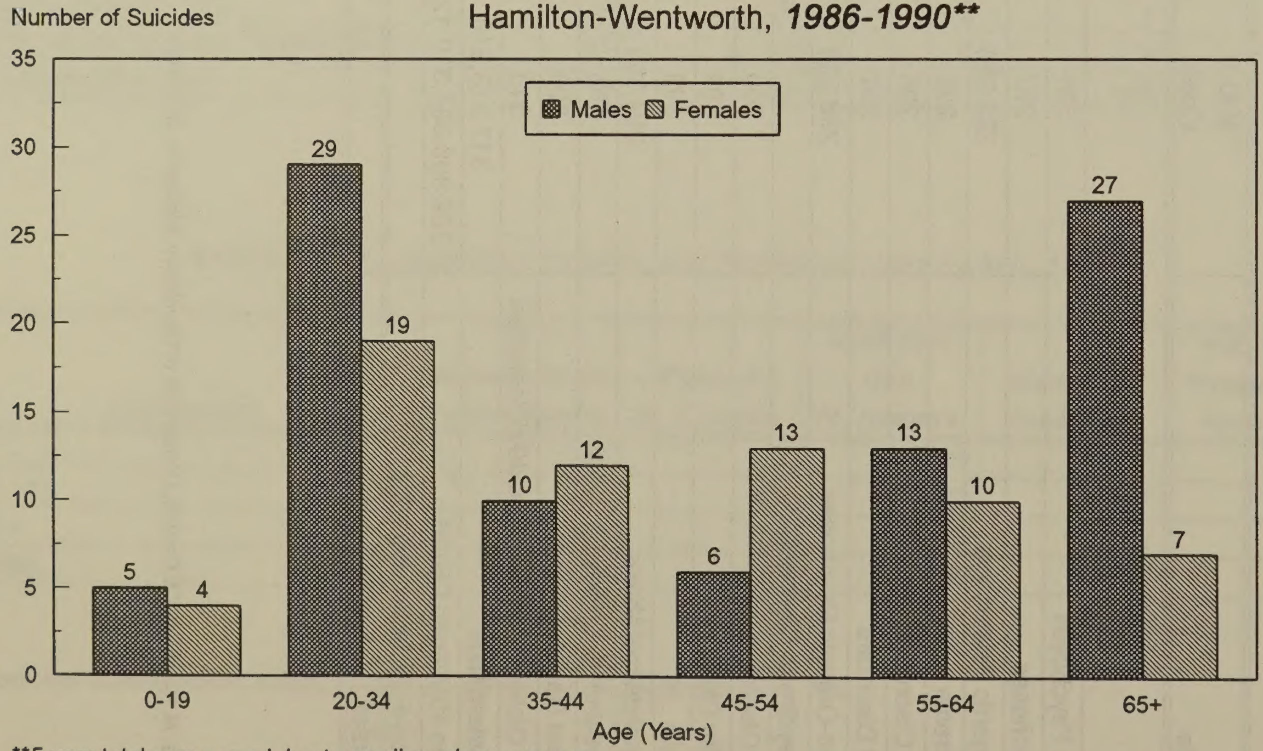
Source: Drs. N. Kates and M. Craven, Department of Psychiatry, McMaster University

Exhibit 3.4.12. *Hospitalization* for Attempted Suicide*, by *Age* and by *Gender*, Hamilton-Wentworth, 1990



*Hospitalization = number of hospital discharges; cause recorded by diagnosis at discharge.

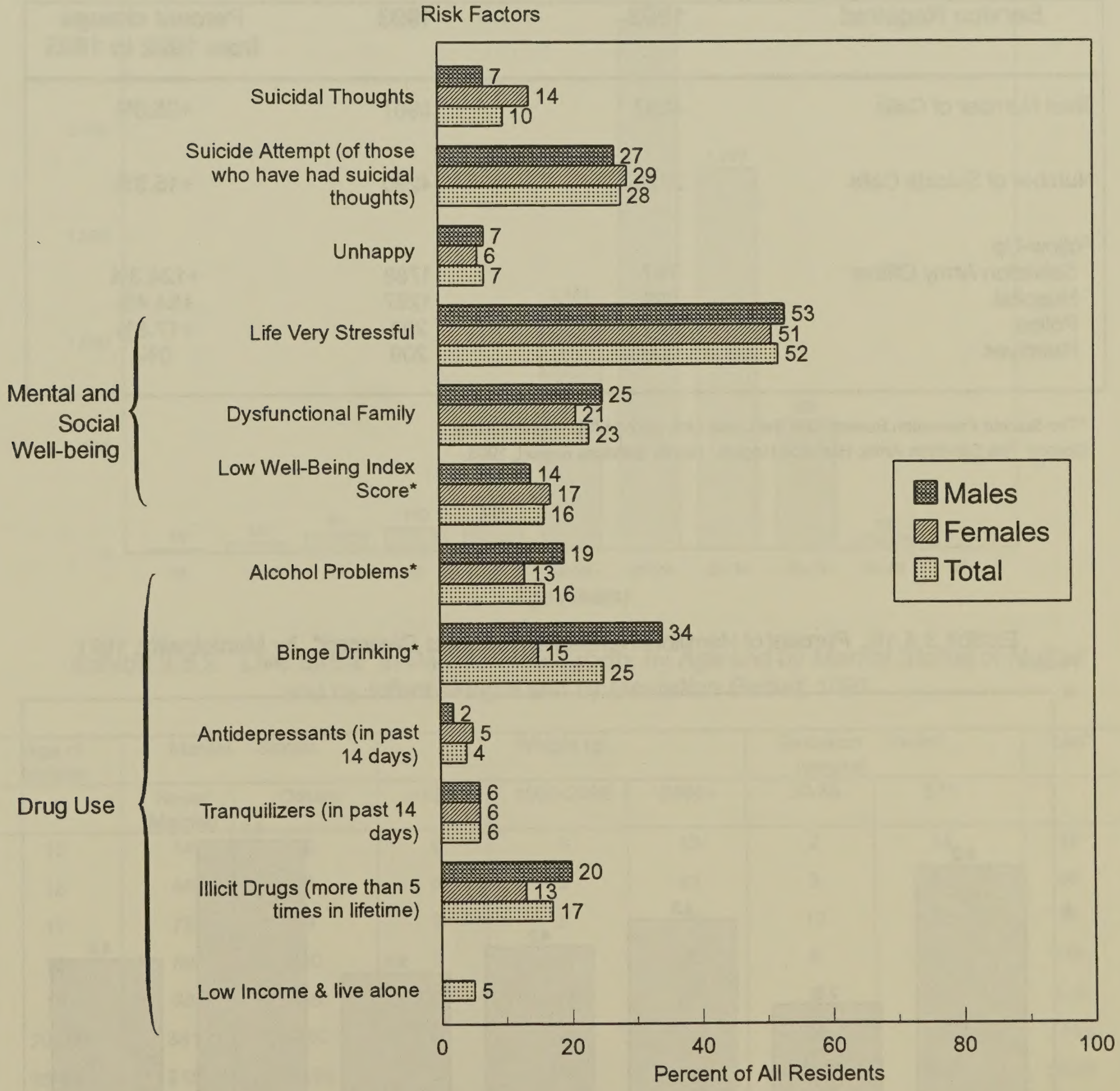
Exhibit 3.4.13. *Number* of *Suicides*, by *Age* and by *Gender*, Hamilton-Wentworth, *1986-1990***



**5 year totals were used due to small numbers per year

Source: Ontario Ministry of Health, 1986-1990 Morbidity and Mortality Report, 1992

Exhibit 3.4.14. *Self Reported Suicide Risk Factors* (Percent) for *All Hamilton-Wentworth Residents*, by *Gender*, 1990



* Alcohol Problems = determined by score on Short Michigan Alcoholism Screening Test (MAST) - Refer to Exhibit 4.2.2.12 for definition
Binge Drinking = more than 10 drinks on at least 1 occasion in past year.
Low well-Being = refer to Exhibit 3.4.4 for definition; Index Score includes surrogate measure for depression.

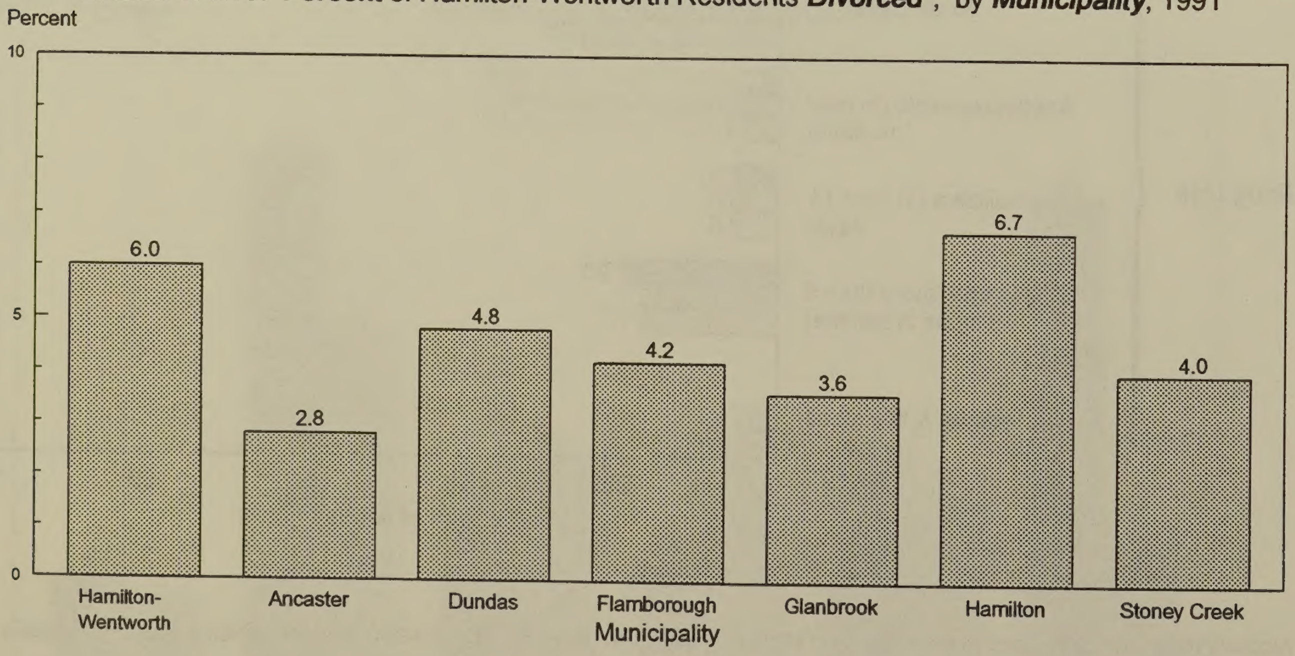
Source: Ontario Ministry of Health, 1990 Ontario Health Survey, 1992; Income data - Statistics Canada, 1991 Census Canada, 1993..

Exhibit 3.4.15. Calls To ***Suicide Prevention Bureau's Crisis Line****, 1992 and 1993

Service Required	1992	1993	Percent change from 1992 to 1993
Total Number of Calls	4697	5907	+25.8%
Number of Suicide Calls	3720	4290	+15.3%
Follow-Up			
Salvation Army Officer	797	1788	+124.3%
Hospital	699	1287	+84.4%
Police	241	284	+17.8%
Relatives	209	209	0%

*The Suicide Prevention Bureau runs the Crisis Line (522-1477) 24-hours a day.
Source: The Salvation Army, Hamilton Region. Family Services Report, 1993.

Exhibit 3.4.16. ***Percent*** of Hamilton-Wentworth Residents ***Divorced****, by ***Municipality***, 1991



$$\text{* Percent divorced} = \frac{\text{number divorced}}{\text{population 15 years and older}} \times 100$$

Source: 1991 Canadian Census. Statistics Canada. 1993.

Exhibit 3.5.1. *Live Births* in Hamilton-Wentworth, by *Age of Mother*, 1991

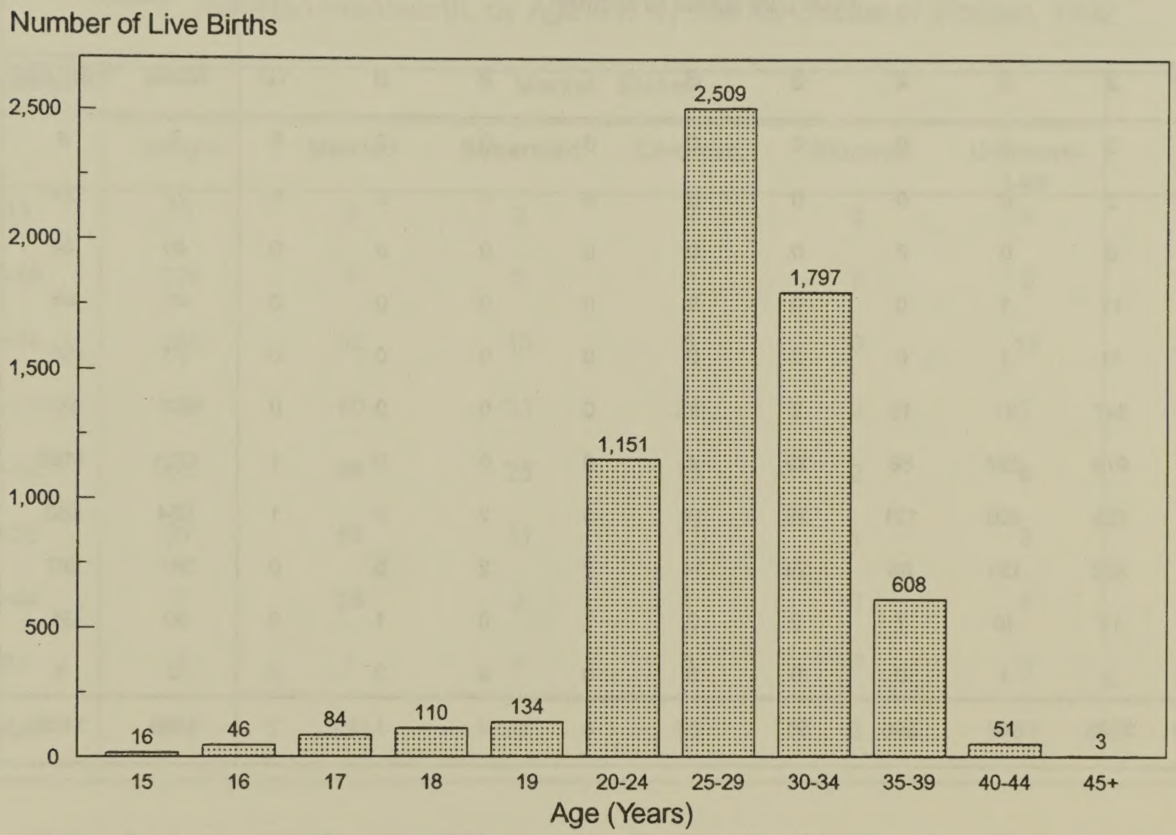


Exhibit 3.5.2. Live Births in Hamilton-Wentworth, by *Age* and by *Marital Status* of Mother and by *Infant Weight* and by *Gestation Period*, 1991

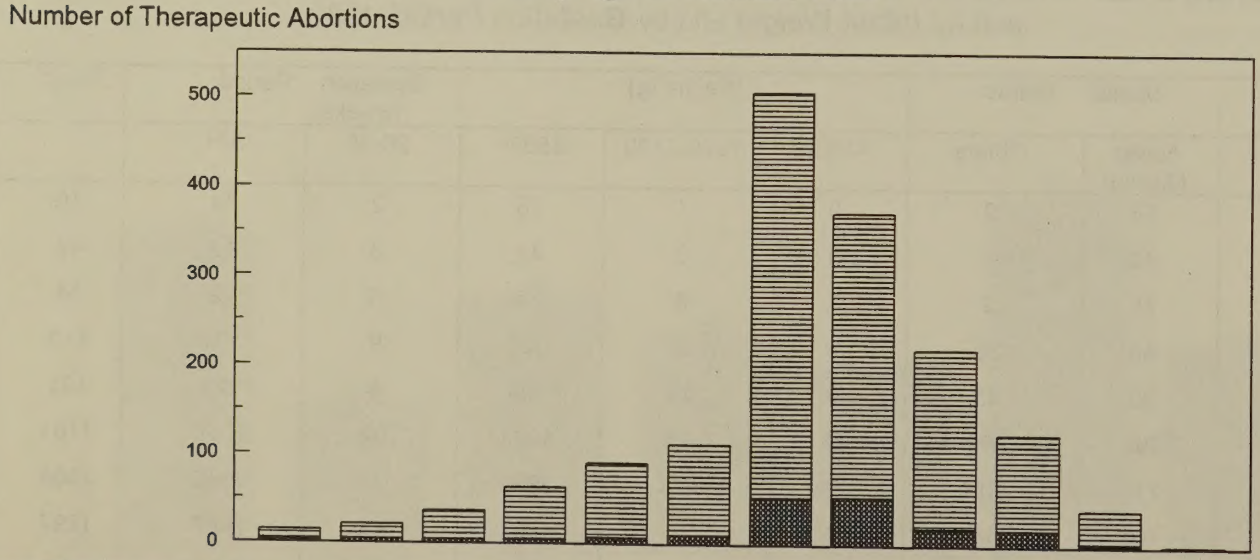
Age of Mother	Marital Status		Weight (g)			Gestation Period (weeks)		Total*
	Never Married	Others	<1500	1500-2499	2500+	20-36	37+	
15	14	2	0	1	15	2	14	16
16	45	1	0	3	43	3	43	46
17	75	9	3	8	73	12	72	84
18	80	30	3	4	103	9	101	110
19	99	35	0	10	124	8	125	133
20-24	361	790	12	68	1071	92	1059	1151
25-29	215	2294	24	124	2360	163	2345	2509
30-34	108	1689	8	94	1694	109	1687	1797
35-39	35	573	8	42	558	59	549	608
40-44	7	44	1	4	46	5	46	51
45+	0	3	0	0	3	0	3	3
Total*	1039	5470	59	358	6090	462	6044	6509

Source: Ontario Ministry of Health, Public Health Branch, 1993.

Exhibit 3.5.3. ***Live Births*** in Hamilton- Wentworth, by ***Age*** and by ***Parity**** of Mother and by ***Gender of Infant***, 1991

Age of Mother	Total Live Births to Mother										Gender		Total
	First	2	3	4	5	6	7	8	9	10	Male	Female	
15	16	0	0	0	0	0	0	0	0	0	7	9	16
16	44	2	0	0	0	0	0	0	0	0	22	24	46
17	76	8	0	0	0	0	0	0	0	0	40	44	84
18	92	17	1	0	0	0	0	0	0	0	45	65	110
19	102	31	1	0	0	0	0	0	0	0	73	61	133
20-24	704	347	81	16	2	1	0	0	0	0	597	553	1151
25-29	1134	916	337	88	29	4	0	0	0	1	1321	1188	2509
30-34	465	755	400	121	29	19	5	2	0	1	934	863	1797
35-39	132	232	131	66	29	14	2	2	0	0	341	267	608
40-44	8	13	16	7	2	3	1	0	1	0	20	31	51
45+	0	2	1	0	0	0	0	0	0	0	0	3	3
Total	2773	2323	968	298	91	41	8	4	1	2	3400	3108	6509

Exhibit 3.5.4. ***Therapeutic Abortions*** for Residents of Hamilton-Wentworth, by ***Location*** and by ***Age of Woman***, 1992



Age Category (Years)	14	15	16	17	18	19	20-24	25-29	30-34	35-39	40-44	45+
Free Standing Clinics ▩	3	4	4	5	7	10	53	54	20	18	3	0
Hospitals ▤	11	17	32	58	84	102	453	318	199	107	38	1

*Parity = total live births to mother (including present birth)
Source: Ontario Ministry of Health, Public Health Branch. 1993.

Exhibit 3.5.5. *Therapeutic Abortions Performed* in **Hospitals** for Residents in Hamilton-Wentworth, by ***Age*** and by ***Marital Status*** of Woman, 1992

Age Group	Marital Status						Total
	Single	Married	Separated	Divorced	Widowed	Common-Law	
<15	11	0	0	0	0	0	11
15-19	278	7	3	0	0	5	293
20-24	385	36	13	6	0	13	453
25-29	169	90	31	21	0	7	318
30-34	65	86	25	15	2	6	199
35-39	27	53	11	12	1	3	107
40-44	7	26	3	1	0	1	38
45+	0	1	0	0	0	0	1
Total	942	299	86	55	3	35	1420

Exhibit 3.5.6. *Therapeutic Abortions Performed* in ***Free Standing Clinics*** for Residents in Hamilton-Wentworth, by ***Age*** and by ***Marital Status*** of Woman, 1992

Age Group	Marital Status						Total
	Single	Married	Separated	Divorced	Widowed	Common-Law	
<15	3	0	0	0	0	0	3
15-19	29	1	0	0	0	0	30
20-24	47	3	3	0	0	0	53
25-29	29	18	2	2	1	2	54
30-34	8	4	4	2	1	1	20
35-39	3	8	2	5	0	0	18
40-44	0	2	0	0	0	1	3
45+	0	0	0	0	0	0	0
Total	119	36	11	9	2	4	181

Source: Ontario Ministry of Health, Public Health Branch. 1993.

Exhibit 3.5.7. ***Therapeutic Abortions Performed*** in ***Hospitals*** for Residents of Hamilton-Wentworth, by ***Age*** and by Number of **Previous Therapeutic Abortions**, 1992

Age Group	Number of Previous Therapeutic Abortions					Total
	None	1	2	3	4	
<15	11	0	0	0	0	11
15-19	243	46	3	1	0	293
20-24	305	108	31	8	0	452
25-29	194	87	24	10	1	316
30-34	137	43	12	6	1	199
35-39	77	26	3	1	0	107
40-44	31	5	2	0	0	38
45+	1	0	0	0	0	1
Total	999	315	75	26	2	1420

Exhibit 3.5.8. Therapeutic Abortions Performed *in* **Free Standing Clinics** for Residents of Hamilton-Wentworth, by ***Age*** and by Number of ***Previous Therapeutic Abortions***, 1992

Age Group	Number of Previous Therapeutic Abortions				Total
	None	1	2	4	
<15	3	0	0	0	3
15-19	23	5	2	0	30
20-24	35	16	2	0	53
25-29	33	16	5	0	54
30-34	11	6	3	0	20
35-39	9	8	0	1	18
40-44	1	2	0	0	3
45+	0	0	0	0	0
Total	115	53	12	1	181

Source: Ontario Ministry of Health, Public Health Branch. 1993.

Exhibit 3.5.9. ***Percent*** of Hamilton-Wentworth ***Females*** Using ***Oral Contraceptives****, by ***Age***, 1990

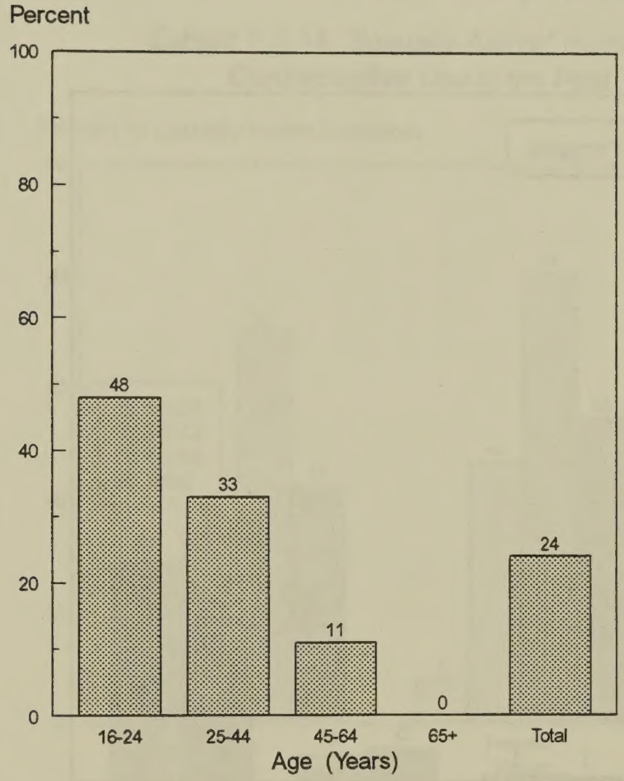
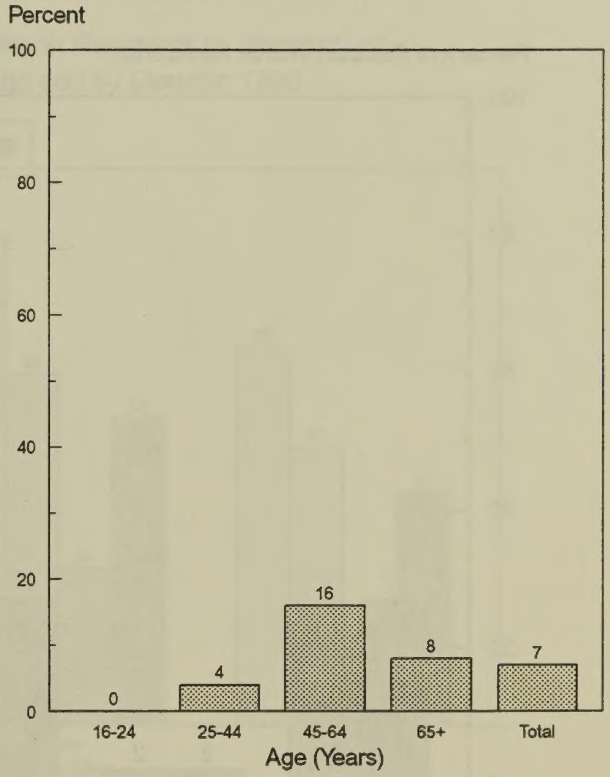


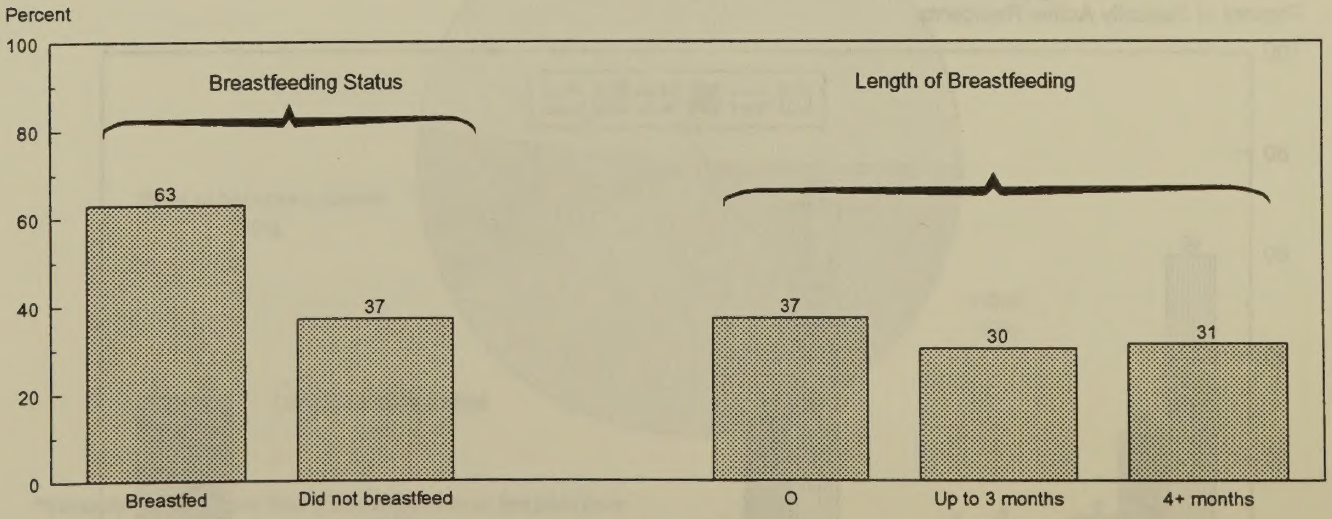
Exhibit 3.5.10. ***Percent*** of Hamilton-Wentworth ***Females Using Female Hormones*****, by ***Age***, 1990



*women were asked whether they took oral contraceptives (either for birth control, to regulate menstrual cycle, or another reason)

** female hormones (as treatment for menopausal disorders, infertility, or another reason).

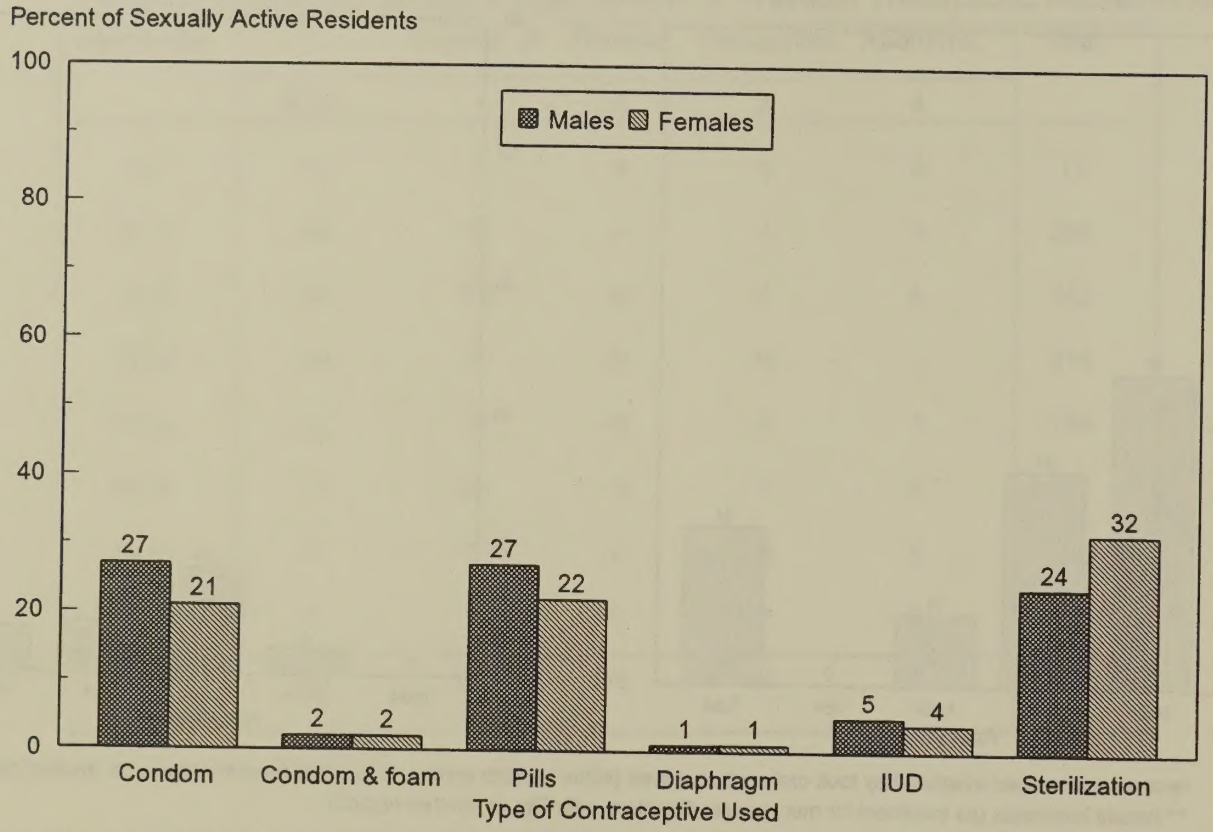
Ehibit 3.5.11. ***Percent*** of Hamilton-Wentworth ***Females Aged 16-44*** Who ***Breastfed*** Their ***Child***** and ***Length of Breast Feeding***, 1990



**Breastfeeding question asked of women 16-44 who had given birth to a child within the last 15 years.

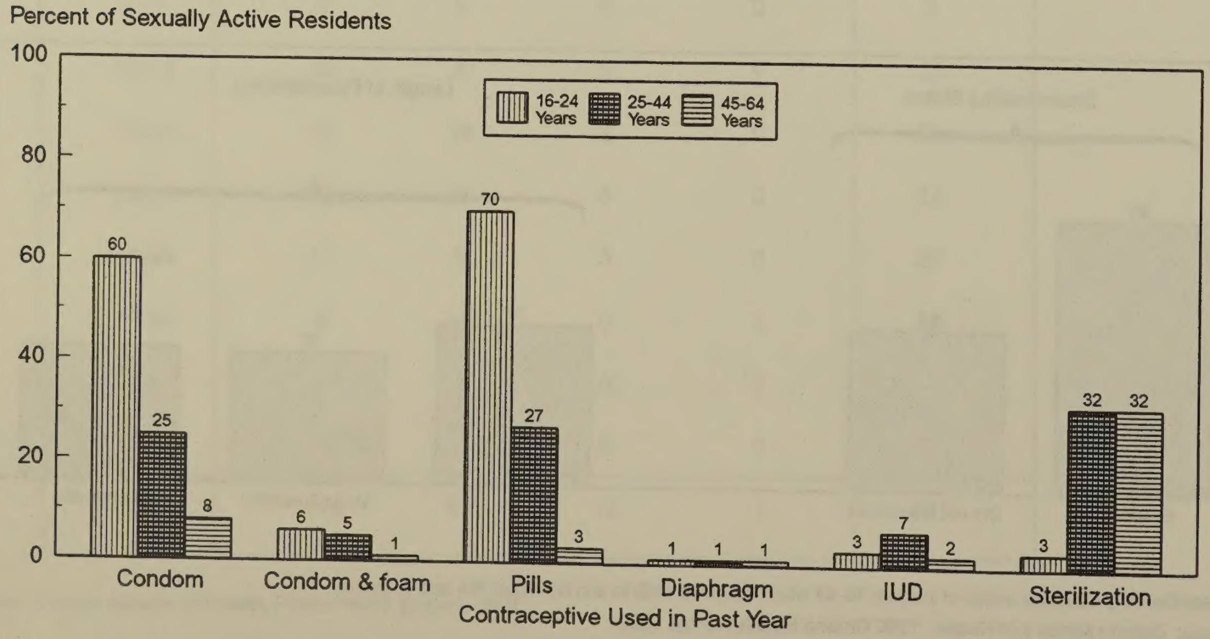
Source: Ontario Ministry of Health. 1990 Ontario Health Survey. 1992.

Exhibit 3.5.12. The *Type of Contraceptive* Used by *Sexually Active** Hamilton-Wentworth Residents, by *Gender,* 1990.



* Sexually active = Have had a sexual partner in the past year.
Note that some respondents may have used more than one form of birth control or had more than one partner in the past year.

Exhibit 3.5.13. Type of *Contraceptive* Used by *Sexually Active** Hamilton-Wentworth Residents, by *Age*, 1990



Source: Ontario Minsitry of Health. 1990 Ontario Health Survey. 1992.

Exhibit 3.5.14. *Sexually Active** Hamilton-Wentworth Residents by *Percent of Contraceptive Use* in the *Past Year,* by *Age* and by *Gender*, 1990

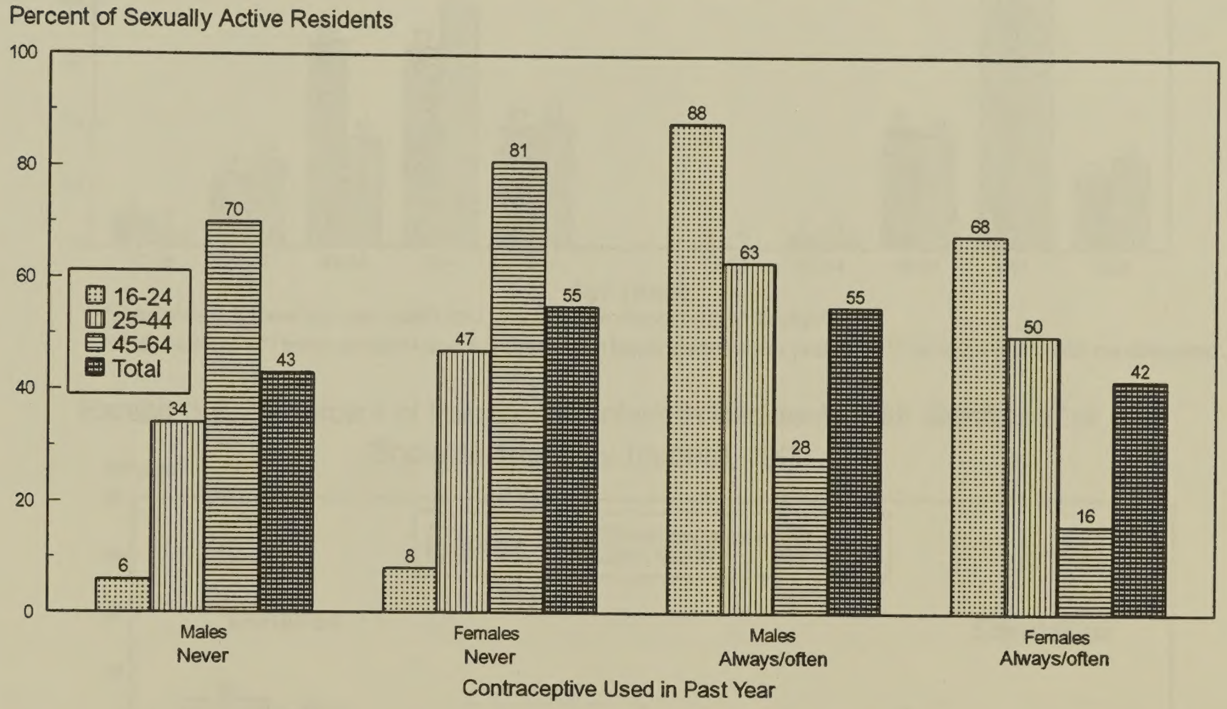
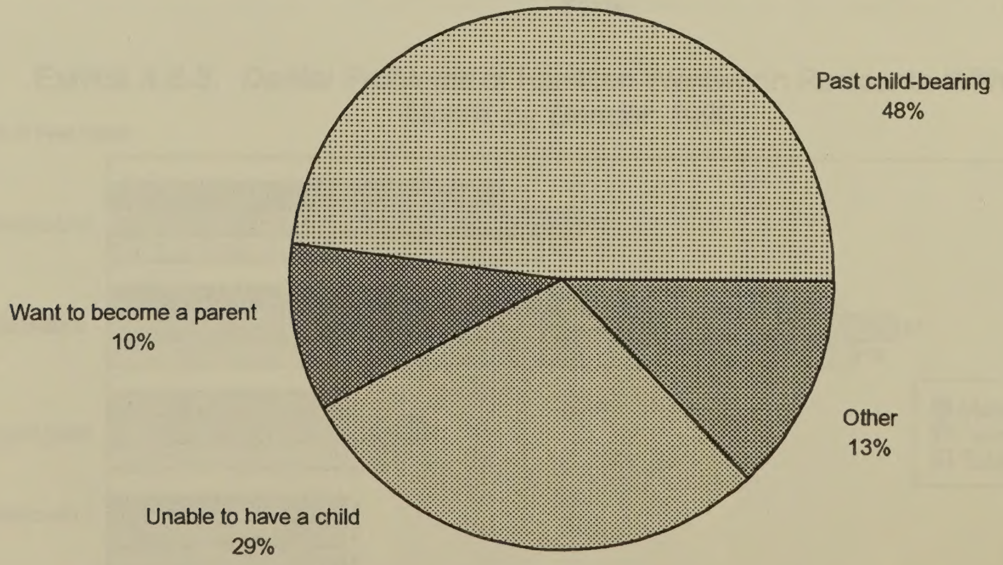


Exhibit 3.5.15. *Reason for Not Using Contraception Among Sexually Active** Hamilton-Wentworth Residents *Who Never Used Birth Control* in *Past Year*, 1990

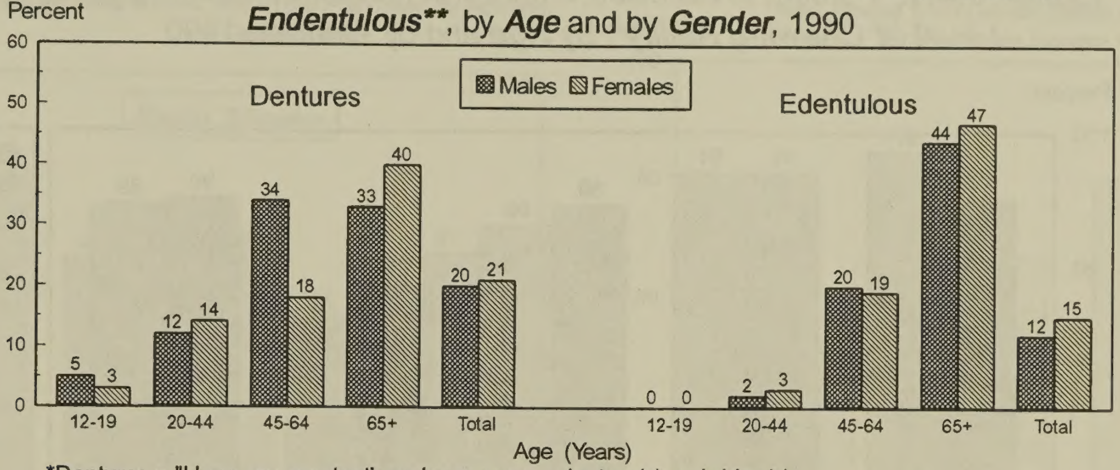


*Sexually active = have had a sexual partner in the past year.

Source: Ontario Minsitry of Health. 1990 Ontario Health Survey. 1992.

3.6. Dental Health

Exhibit 3.6.1. Percent of Hamilton-Wentworth Residents With ***Dentures**** or ***Endentulous*****, by ***Age*** and by ***Gender***, 1990



*Dentures = "I have my own teeth and one or more denture(s) or bridge(s).

**Edentulous = "I have no teeth and full upper and lower dentures or plates" + "I have no teeth and no dentures".

Exhibit 3.6.2. Percent of Hamilton-Wentworth Residents With ***Dentures**** or ***Endentulous*****, by ***Income***, 1990

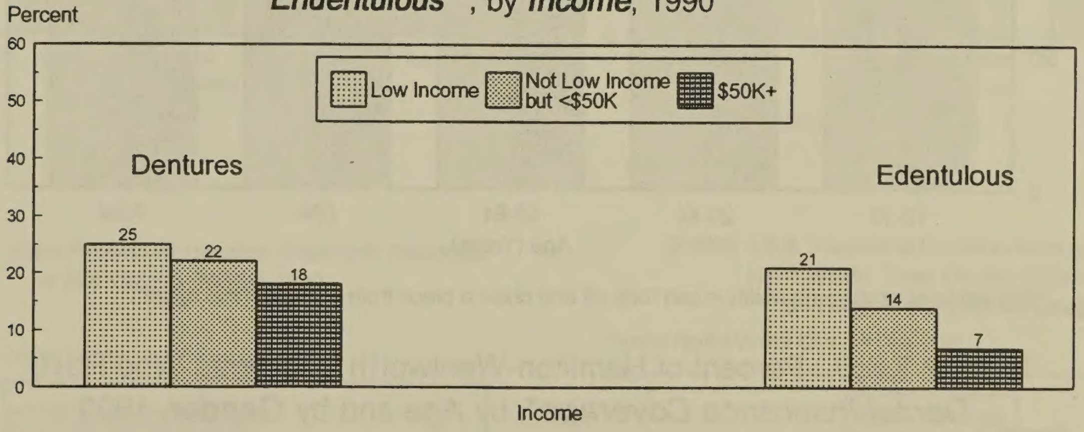
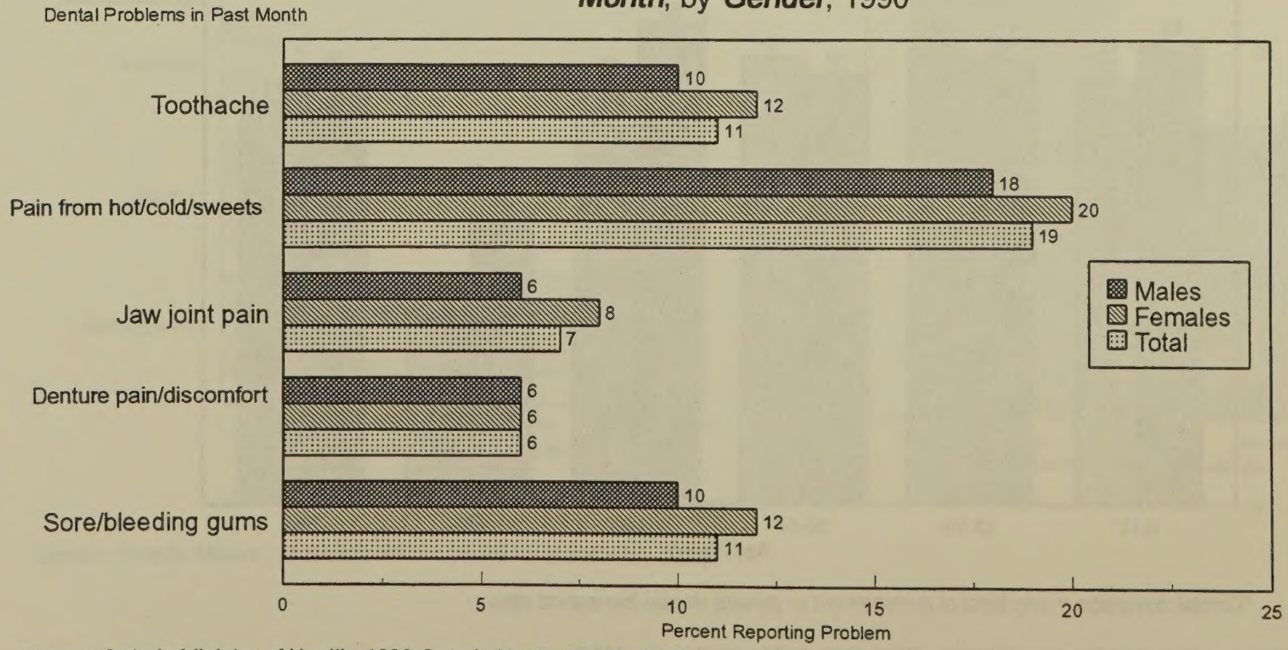
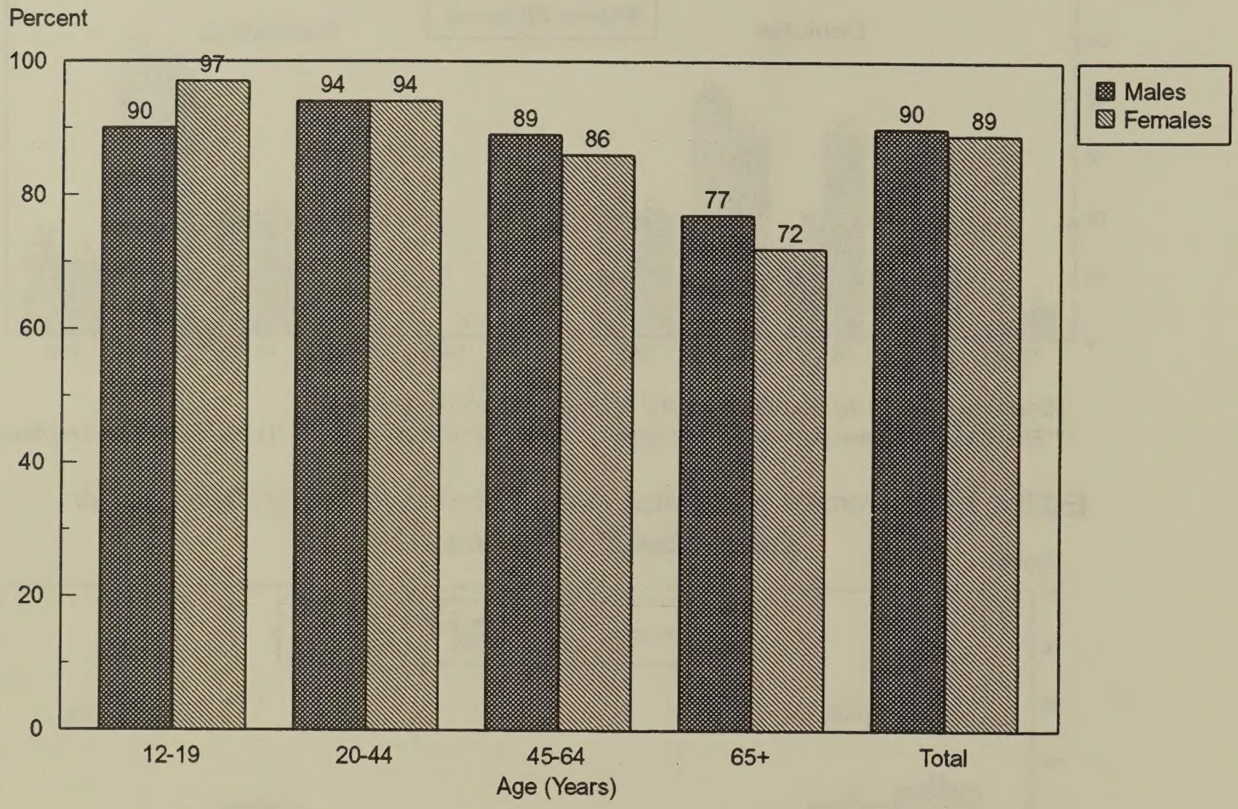


Exhibit 3.6.3. ***Dental Problems*** of Hamilton-Wentworth Residents ***Within Past Month***, by ***Gender***, 1990



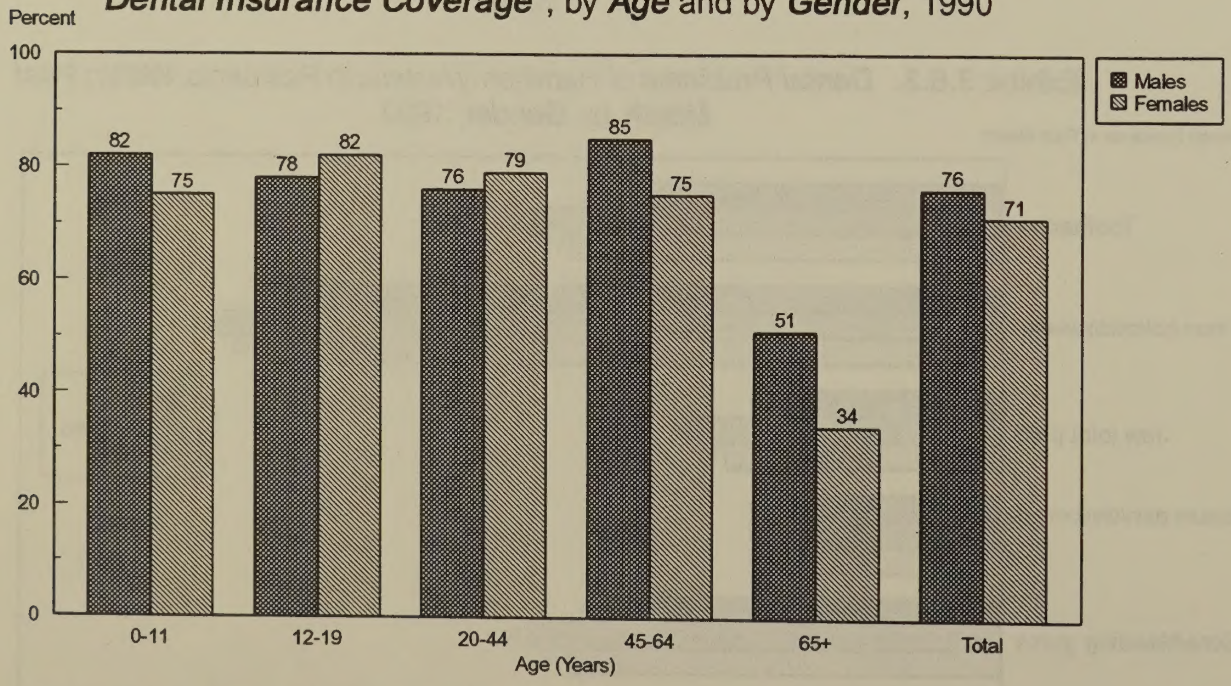
Source: Ontario Ministry of Health, 1990 Ontario Health Survey, 1992

Exhibit 3.6.4. Percent of Hamilton-Wentworth Residents With ***Highest Level of Chewing Ability****, by ***Age*** and by ***Gender***, 1990



*Highest level of chewing ability = can "bite off and chew a piece from a whole fresh apple".

Exhibit 3.6.5. Percent of Hamilton-Wentworth Residents Who Have ***Dental Insurance Coverage****, by ***Age*** and by ***Gender***, 1990



*Dental coverage = any kind of government or private dental insurance plan.

Source: Ontario Ministry of Health, 1990 Ontario Health Survey, 1992.

Exhibit 3.6.6. Percent of Hamilton-Wentworth Residents Who Have *Visited Their Dentist Within the Past Year*, by *Age* and by *Gender*, 1990

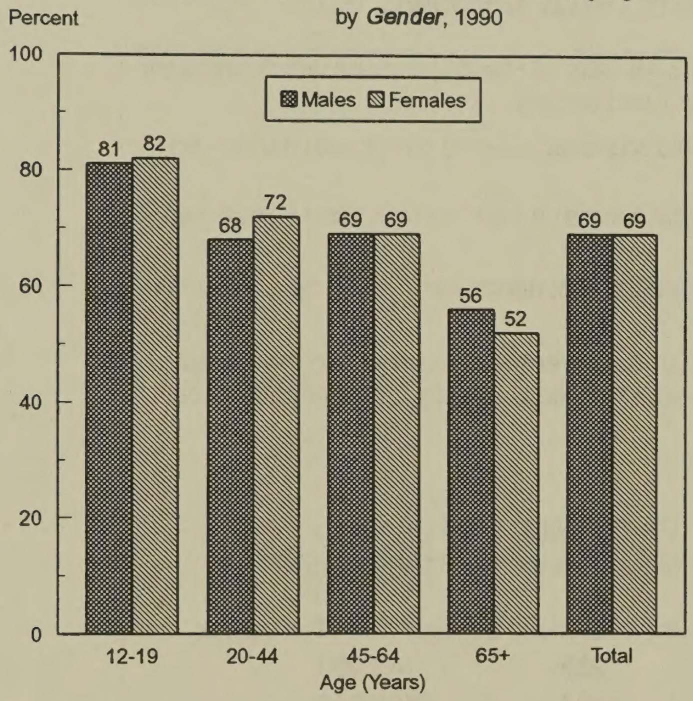
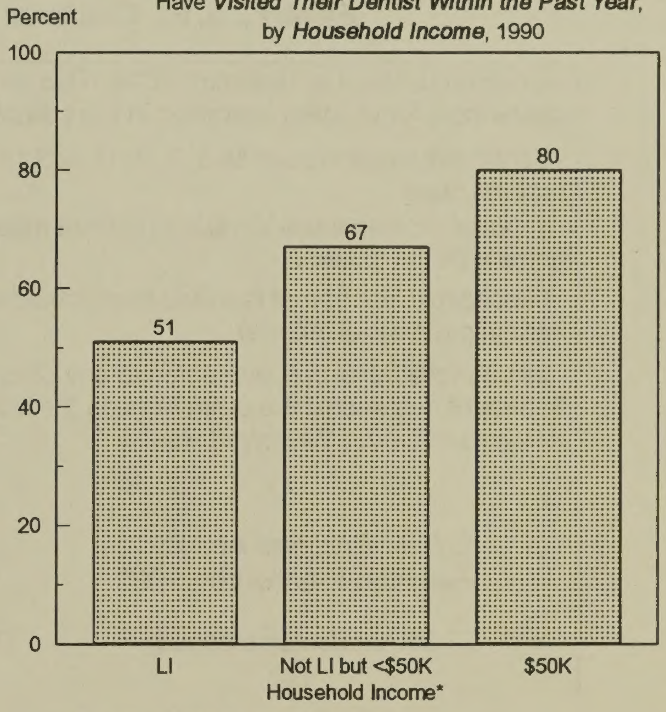


Exhibit 3.6.7. Percent of Hamilton-Wentworth Residents Who Have *Visited Their Dentist Within the Past Year*, by *Household Income*, 1990



*Refer to Exhibit 1.1 for definitions.

Exhibit 3.6.8. *Main Reason* for Hamilton-Wentworth Residents for *Not Visiting Dentist*, 1990

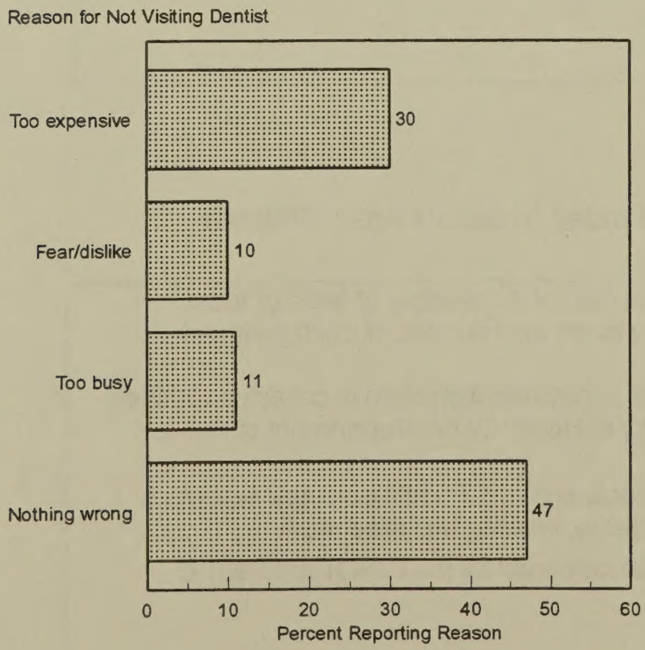
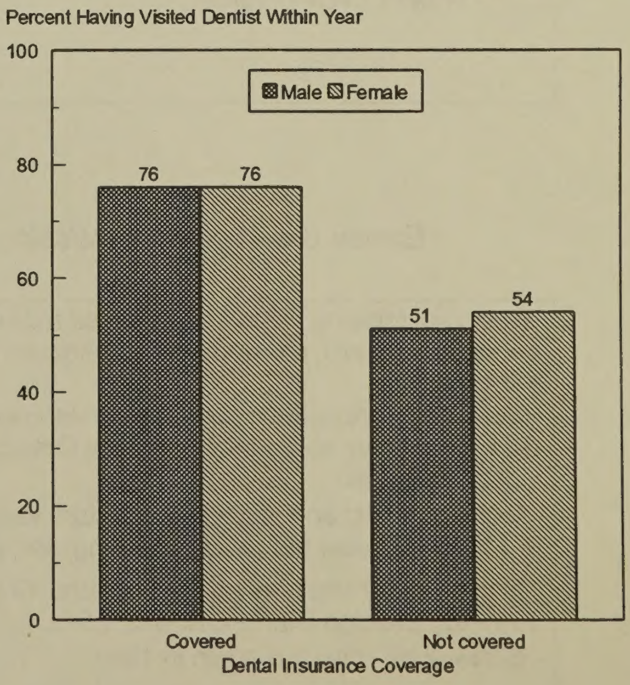


Exhibit 3.6.9. Percent of Hamilton-Wentworth Residents Who Have *Visited Their Dentist Within Past Year*, by *Dental Insurance Coverage*, 1990



Source: Ontario Ministry of Health, 1990 Ontario Health Survey, 1992

Exhibit 3.6.10. ***Children*** in Need of ***Dental Treatment,*** 1993

- Children In Need of Treatment (CINOT) is an Ontario Ministry of Health program which provides dental care for children identified in the schools as in need of care

- dental hygenists screen all 5, 7, 9, 11 and 13 year old students - visual check with mirror - no probing done
- if dental problems are identified (student meets dental criteria) a parent notification form is sent home with the student

-if applicable, the parent is asked to sign the form indicating that dental care would be a financial hardship (financial criteria)

- this completed form is presented to any dentist in Hamilton-Wentworth who will do the dental treatment and submit the claim through the Department of Public Health Services which will be reimbursed by the Ministry of Health

CINOT Program Activity in
Hamilton-Wentworth, 1993

28,000 students screened

⇩

1,600 identified for treatment

⇩

1,400 sought dental treatment
under CINOT program

CINOT Utilization Trends in
Hamilton-Wentworth, 1989 to 1993

Reimbursments made through CINOT program:

1989	$143,000
1993	$555,000

Exhibit 3.6.11. ***Decay, Missing, Filled Index*** in School-Aged ***Children***

-Decayed, Missing Filled (DMF) Index represents the ratio of the number of teeth or tooth surfaces decayed, missing or filled because of decay to the total number of tooth surfaced examined
-data on the prevalence of dental caries and decay in school-aged children is collected routinely every four years and submitted to the Ontario Ministry of Health by the Department of Public Health Services
-dental hygenist and recording assistant visit the schools and record data on every seventh 5, 7, 9, 11, and 13 year old regarding: gingivitis, plaque, decay, missing and filled teeth
- of the 21,000 students (5, 7, 9, 11, and 13 year olds) screened for the CINOT program in 1991-92, average DMF Index was 1.5
- data will be collected again in 1994

Source: Hamitton-Wentworth Department of Public Health Services, Dental Division; Contact: Dr. John Bakti, Director

Exhibit 4.1.1. Education Characteristics of Hamilton-Wentworth Residents, by Municipality, 1991

Characteristic	Hamilton-Wentworth	Stoney Creek	Glanbrook	Ancaster	Hamilton	Dundas	Flam-borough
Total population 15-24 yrs, by school attendance	**62,750**	**7,100**	**1,415**	**2,880**	**44,630**	**2,800**	**3,920**
Not attending school	23,370	2,270	380	650	17,970	765	1,335
Attending school full-time	35,020	4,395	945	2,150	23,305	1,890	2,340
Attending school part-time	4,360	435	85	85	3,355	140	255
Total population 15 years and over	**358,045**	**38,370**	**7,515**	**16,605**	**256,080**	**16,815**	**22,655**
Highest level of schooling, < 9 (18)	48,690	5,010	695	850	39,270	1,035	1,840
Grades 9-13 - Without secondary certificate	96,235	9,910	2,275	3,415	71,185	3,800	5,650
Grades 9-13 - With secondary certificate	55,070	6,815	1,370	2,440	38,490	2,320	3,640
Trades certificate or diploma	13,425	1,890	410	590	9,025	540	975
Other non-university - Without certificate (19)	24,905	2,710	415	940	18,320	1,015	1,500
Other non-university - With certificate (19) (20)	57,570	6,355	1,510	2,685	39,690	3,105	4,220
University - Without degree	26,965	2,830	480	1,985	17,700	1,865	2,100
University - Without certificate	14,430	1,600	255	1,015	9,645	900	1,010
University - With certificate (20)	12,535	1,230	225	970	8,055	965	1,090
University - With degree	35,190	2,855	355	3,705	22,390	3,135	2,740
Males with postsecondary qualifications (21):	62,415	6,940	1,350	4,190	41,210	3,810	4,910
Educational, recreational and counselling services	2,865	295	50	315	1,865	165	175
Fine and applied arts	1,870	175	40	95	1,320	115	125
Humanities and related fields	3,140	270	40	305	2,045	280	205
Social sciences and related fields	5,075	515	25	500	3,305	370	355
Commerce, management and business administration	8,835	1,220	115	730	5,520	600	645
Agricultural and biological sciences / technologies	2,115	145	70	190	1,305	150	245
Engineering and applied sciences	3,370	315	25	395	1,990	310	325
Engineering and applied science techs. and trades	29,855	3,705	870	1,100	20,510	1,240	2,430
Health professions, sciences and technologies	2,740	115	50	400	1,680	305	190
Mathematics and physical sciences	2,435	175	50	150	1,585	270	205
No specialization and all other, n.e.c.	105	10	0	10	80	0	15
Females with postsecondary qualifications (21)	56,305	5,390	1,155	3,755	37,955	3,935	4,115
Educational, recreational and counselling services	7,355	735	155	535	4,660	590	670
Fine and applied arts	4,305	425	85	170	3,070	250	305

Exhibit 4.1.1. Education Characteristics of Hamilton-Wentworth Residents, by Municipality, 1991 (continued)

Characteristic	Hamilton-Wentworth	Stoney Creek	Glanbrook	Ancaster	Hamilton	Dundas	Flam-borough
Humanities and related fields	4,040	305	50	380	2,720	330	245
Social sciences and related fields	5,335	420	95	435	3,525	455	405
Commerce, management and business administration	15,040	1,630	280	760	10,325	905	1,130
Agricultural and biological sciences / technologies	2,355	155	30	90	1,695	125	250
Engineering and applied sciences	280	25	0	20	190	35	10
Engineering and applied science techs. and trades	2,815	440	95	90	1,930	130	125
Health professions, sciences and technologies	13,415	1,100	320	1,155	8,975	1,010	860
Mathematics and physical sciences	1,250	130	35	110	785	80	100
No specialization and all other, n.e.c.	110	15	0	10	75	10	0

Source: Statistics Canada. Profile Series - Part B. Ottawa: Industry, Science and Technology Canada, 1993. 1991 Census of Canada.

Refer to Section 2.3.13. for footnotes.

Exhibit 4.1.2. Income Characteristics of Hamilton-Wentworth Residents, by Municipality, 1991

Characteristic	Hamilton-Wentworth	Stoney Creek	Glanbrook	Ancaster	Hamilton	Dundas	Flam-borough
Income - Males							
Males - Worked full year, full time (33)	76,020	8,920	1,830	4,460	50,290	4,095	6,425
Average employment income $	39,503	41,042	40,086	58,615	36,144	45,275	46,540
S.E. of average employment income $	263	516	1,434	1,399	237	2,950	916
Males - Worked part year or part time (34)	53,155	6,135	1,185	2,275	38,090	2,235	3,230
Average employment income $	19,263	20,454	20,619	24,436	18,539	20,711	20,404
S.E. of average employment income $	179	466	1,272	1,588	178	1,479	986
Income - Females							
Females - Worked full year, full time (33)	52,130	5,925	875	2,505	36,210	2,815	3,805
Average employment income $	26,485	27,982	26,482	34,018	25,092	30,965	29,139
S.E. of average employment income $	151	691	934	840	144	972	533
Females - Worked part year or part time (34)	57,475	6,450	1,450	2,805	39,925	2,945	3,900
Average employment income $	10,769	10,726	10,220	13,487	10,519	11,261	11,281
S.E. of average employment income $	92	245	468	651	105	411	409
Composition of total income, total (35) %	100	100	100	100	100	100	100
Employment income %	78	83	82	82	75	78	83
Government transfer payments %	12	10	9	6	14	8	7
Other income %	11	8	9	12	11	13	10
Males 15 years and over with income	164,595	18,100	3,665	7,935	116,045	7,620	11,225
Under $1,000, males >14 years (36)	4,045	475	150	170	2,730	180	345
$ 1,000 - $ 2,999, males >14 years	6,150	810	115	300	4,295	250	375
$ 3,000 - $ 4,999, males >14 years	5,015	550	140	235	3,535	220	340
$ 5,000 - $ 6,999, males >14 years	4,970	410	90	190	3,760	215	300
$ 7,000 - $ 9,999, males >14 years	8,435	630	160	295	6,685	260	395
3207 $10,000 - $14,999, males >14 years	16,070	1,345	250	535	12,580	610	740
$15,000 - $19,999, males >14 years	14,600	1,305	270	370	11,380	510	760
$20,000 - $24,999, males >14 years	13,625	1,210	375	395	10,440	485	725
$25,000 - $29,999, males >14 years	15,035	1,590	285	585	11,100	550	920
$30,000 - $39,999, males >14 years	31,455	3,620	635	915	23,005	1,390	1,890
$40,000 - $49,999, males >14 years	22,390	3,185	515	1,170	14,935	1,060	1,520
$50,000 and over, males >15 years	22,805	2,970	660	2,775	11,590	1,890	2,915
Average income, males >14 years (37) $	30,586	32,418	32,282	47,572	27,870	37,287	38,598

Exhibit 4.1.2. Income Characteristics of Hamilton-Wentworth Residents, by Municipality, 1991 (continued)

Characteristic	Hamilton-Wentworth	Stoney Creek	Glanbrook	Ancaster	Hamilton	Dundas	Flam-borough
Median income, males > 14 years (37) $	27,964	31,572	29,805	39,421	25,970	32,828	32,985
Standard error of average income, males >14 years $	158	360	930	1,202	142	1,744	739
Females 15 years and over with income	163,045	16,895	3,175	7,360	117,465	8,170	9,980
Under $1,000, females >14 years (36)	6,635	705	245	340	4,575	245	520
$ 1,000 - $ 2,999, females >14 years	10,830	1,240	210	500	7,640	660	580
$ 3,000 - $ 4,999, females >14 years	10,040	1,170	295	430	7,080	440	625
$ 5,000 - $ 6,999, females >14 years	10,955	1,040	175	440	8,130	450	715
$ 7,000 - $ 9,999, females >14 years	15,815	1,430	280	580	11,885	675	965
3207 $10,000 - $14,999, females >14 years	32,725	3,105	560	1,015	25,240	1,390	1,410
$15,000 - $19,999, females >14 years	19,430	1,970	430	730	14,440	860	995
$20,000 - $24,999, females >14 years	16,860	1,820	305	725	12,140	770	1,095
$25,000 - $29,999, females >14 years	13,435	1,460	245	585	9,425	805	915
$30,000 - $39,999, females >14 years	14,570	1,700	205	730	10,035	950	945
$40,000 - $49,999, females >14 years	6,500	700	100	625	4,035	465	570
$50,000 and over, females >15 years	5,255	540	115	660	2,840	465	635
Average income, females >14 years (37) $	17,530	18,000	15,952	22,281	16,788	20,674	19,890
Median income, females > 14 years (37) $	13,813	14,318	12,831	17,439	13,279	16,012	15,474
Standard error of average income, females >14 years	79	308	484	500	82	486	353
Family Income:							
Family income - All census families	123,015	13,950	2,735	6,185	85,820	5,985	8,345
Under $10,000, family income	5,920	435	65	65	5,075	115	165
$10,000 - $19,999, family income	11,270	735	160	205	9,475	325	365
$20,000 - $29,999, family income	15,420	1,450	325	430	11,945	585	685
$30,000 - $39,999, family income	16,060	1,520	310	490	12,120	705	915
$40,000 - $49,999, family income	17,545	2,125	380	560	12,820	710	950
$50,000 - $59,999, family income	16,600	2,230	425	625	11,305	790	1,215
$60,000 - $69,999, family income	13,185	1,780	360	725	8,740	650	930
$70,000 and over, family income	27,015	3,670	700	3,080	14,340	2,105	3,120
Average income, family income $	52,267	56,761	56,802	81,375	46,874	66,665	66,842
Median income, family income $	47,074	53,459	52,475	69,766	42,991	56,853	58,712
Standard error of average income, family income $	228	622	1,402	1,703	232	1,460	968

Exhibit 4.1.2. Income Characteristics of Hamilton-Wentworth Residents, by Municipality, 1991 (continued)

Characteristic	Hamilton-Wentworth	Stoney Creek	Glanbrook	Ancaster	Hamilton	Dundas	Flamborough
Low Income Statistics:							
All economic families (38)	123,960	13,985	2,760	6,145	86,725	6,000	8,340
Low income economic families (38)	18,295	1,330	145	215	15,760	470	380
Incidence of low income (38) (39) %	15	10	5	4	18	8	5
All unattached individuals (38)	54,100	2,790	435	945	46,005	2,245	1,685
Low income unattached individuals (38)	22,360	945	90	265	19,975	740	340
Incidence of low income (38) (39) %	41	34	22	28	43	33	20
Total population in private households (38)	442,685	49,190	9,605	21,820	311,860	20,880	29,335
Persons in low income family units (38)	77,165	5,230	505	900	66,990	2,035	1,500
Incidence of low income (38) (39) %	17	11	5	4	22	10	5
Household Income:							
Household income - All private households	168,735	16,235	3,075	6,865	125,200	7,745	9,610
Under $10,000, household income	11,025	510	95	85	9,880	195	265
$10,000 - $14,999, household income	15,830	805	180	225	13,745	545	325
$15,000 - $19,999, household income	11,385	715	80	190	9,670	380	340
$20,000 - $29,999, household income	23,210	1,810	360	550	18,720	845	920
$30,000 - $39,999, household income	21,705	1,705	345	520	17,205	920	1,010
$40,000 - $49,999, household income	21,150	2,340	445	630	15,810	890	1,035
$50,000 - $59,999, household income	18,560	2,360	460	665	12,935	895	1,250
$60,000 - $69,999, household income	14,595	1,890	380	770	9,820	735	1,000
$70,000 and over, household income	31,275	4,095	725	3,235	17,415	2,340	3,465
Average income, household income $	46,415	54,619	54,601	78,413	41,232	58,073	65,195
Median income, household income $	40,249	50,922	50,096	67,133	35,905	50,789	56,842
Standard error of average income, household income	201	588	1,330	1,612	187	1,890	991

Source: Statistics Canada. Profile Series - Part B. Ottawa: Industry, Science and Technology Canada, 1993. 1991 Census of Canada.

Refer to Section 2.3.13. for footnotes.

Exhibit 4.1.3. Language and Ethnicity Characteristics of Hamilton-Wentworth Residents, by Municipality, 1991

Characteristic	Hamilton-Wentworth	Stoney Creek	Glanbrook	Ancaster	Hamilton	Dundas	Flam-borough
Total population (100% data)	451,665	49,968	9,726	21,988	318,499	21,868	29,616
Total population (non-institutional) (1)	446,680	49,460	9,685	21,950	314,915	21,095	29,570
Home language, single responses	**437,285**	**48,085**	**9,615**	**21,750**	**307,590**	**20,905**	**29,340**
Home Language:							
English	388,265	42,780	9,365	21,045	266,165	20,220	28,685
French	1,905	115	10	55	1,660	10	75
Home Languages (non-official): (total)	47,110	5,185	245	655	39,760	680	585
Chinese	2,940	45	0	120	2,700	45	25
Italian	11,120	1,850	20	170	9,010	10	65
Portuguese	4,660	125	10	10	4,450	0	75
Spanish	2,530	140	0	15	2,370	0	0
German	1,365	150	15	40	925	115	125
Polish	4,730	345	55	10	4,200	95	25
Punjabi	1,020	205	10	15	755	40	0
Greek	1,250	85	10	0	1,140	15	0
Vietnamese	1,630	0	0	0	1,625	10	0
Arabic	1,015	35	0	0	980	0	0
Cree	0	0	0	0	0	0	0
Tagalog (Pilipino)	380	30	0	10	335	0	0
Ukrainian	1,485	65	0	25	1,345	45	0
Persian (Farsi)	375	15	0	10	355	0	0
Korean	400	20	0	10	330	40	0
Hungarian	1,495	145	0	10	1,315	10	10
Tamil	10	0	0	0	0	0	0
Gujarati	300	0	0	15	175	75	25
Croatian	2,750	920	45	0	1,775	0	10
Armenian	245	25	0	0	220	0	0
Inuktitut	0	0	0	0	0	0	0
Hindi	200	15	0	0	185	0	0
Urdu	255	70	0	0	175	0	0
Japanese	165	0	0	0	160	0	0
Russian	185	0	0	0	120	70	0
Creoles	20	0	0	0	20	0	0

Exhibit 4.1.3. Language and Ethnicity Characteristics of Hamilton-Wentworth Residents, by Municipality, 1991 (continued)

Characteristic	Hamilton-Wentworth	Stoney Creek	Glanbrook	Ancaster	Hamilton	Dundas	Flam-borough
Dutch	405	65	0	40	225	10	55
Khmer (Cambodian)	655	0	0	0	650	0	0
Ojibway	0	0	0	0	0	0	0
Romanian	180	0	0	0	170	0	0
Other languages	5,340	820	80	150	4,045	95	150
Home language, multiple responses	9,395	1,375	70	200	7,330	190	230
Knowledge of Official Languages:							
English only	412,535	46,605	9,180	20,380	288,885	19,695	27,785
French only	250	10	0	10	235	0	0
Both English and French	25,630	2,070	445	1,460	18,540	1,370	1,745
Neither English nor French	8,260	775	60	105	7,255	20	40
Ethnic origin, single origins	**305,660**	**34,155**	**6,090**	**13,585**	**220,280**	**13,010**	**18,525**
French origins	9,925	820	190	225	7,900	210	580
British: (total)	124,410	11,310	2,920	6,550	87,300	6,865	9,460
English	88,800	8,315	2,170	4,455	61,920	4,970	6,965
Scottish	22,925	2,040	410	1,410	16,265	1,125	1,685
Irish	12,055	925	320	655	8,700	710	745
Other British	625	35	15	30	415	65	60
German	10,725	1,015	325	550	7,185	705	940
Canadian	27,775	3,115	665	1,245	19,110	1,300	2,330
Italian	36,605	7,670	355	1,290	26,420	390	495
Chinese	4,905	135	35	340	4,155	175	65
Aboriginal origins (7)	2,075	55	25	15	1,905	40	40
Ukrainian	6,750	900	70	230	5,160	235	165
Dutch (Netherlands)	10,620	1,045	795	1,255	4,545	425	2,555
East Indian	4,115	535	0	360	2,850	255	115
Polish	11,065	1,345	110	230	8,775	320	275
Portuguese	8,590	315	35	60	7,825	30	320
Jewish	2,755	60	15	230	1,345	1,025	80
Black origins	3,395	55	15	60	3,145	120	0
Filipino	1,985	215	0	145	1,480	70	75
Greek	2,910	260	30	35	2,515	60	25

Exhibit 4.1.3. Language and Ethnicity Characteristics of Hamilton-Wentworth Residents, by Municipality, 1991 (continued)

Characteristic	Hamilton-Wentworth	Stoney Creek	Glanbrook	Ancaster	Hamilton	Dundas	Flam-borough
Hungarian (Magyar)	4,080	405	95	165	3,125	115	170
Vietnamese	1,485	0	0	0	1,485	0	0
Spanish	1,980	150	0	10	1,790	30	0
Lebanese	395	0	0	0	375	20	0
Norwegian	100	10	0	0	65	15	0
Japanese	865	60	0	30	730	30	10
Yugoslav	3,280	705	45	65	2,355	35	75
Korean	670	75	0	10	510	45	25
Swedish	250	15	10	0	210	10	10
Croatian	5,030	1,685	85	15	3,180	0	60
Danish	395	0	0	25	265	40	60
Finnish	285	15	0	15	240	0	10
Other single origins, ethnic origin	18,215	2,180	265	420	14,335	430	580
Ethnic origin, multiple origins (9)	**141,020**	**15,300**	**3,595**	**8,365**	**94,635**	**8,080**	**11,045**
Citizenship							
Canadian citizenship (10)	415,890	47,195	9,495	21,195	289,295	20,105	28,605
Citizenship other than Canadian	30,795	2,260	195	755	25,625	985	965
Non-immigrant population (11)	334,045	37,070	8,200	17,465	229,955	16,740	24,610
Born in province of residence	298,365	33,725	7,735	16,045	203,340	15,135	22,385
Immigrant population:	108,715	12,185	1,440	4,390	81,590	4,240	4,870
United States of America, place of birth	3,820	320	60	300	2,520	395	235
Central and South America	3,495	195	10	80	3,085	80	45
Caribbean and Bermuda	3,235	140	25	115	2,810	80	60
United Kingdom	23,190	1,860	320	1,420	16,250	1,600	1,740
Other Europe (12)	59,905	8,605	985	1,885	44,465	1,485	2,480
Africa	1,665	105	0	85	1,260	150	70
India	2,515	425	0	150	1,730	155	55
Other Asia (13)	10,395	460	35	360	9,110	250	175
Oceania & Other (14)	495	70	0	0	360	45	15
Non-permanent residents (15)	3,920	205	45	95	3,375	110	95
Total immigrant population	108,715	12,180	1,440	4,390	81,590	4,235	4,870
Period of immigration, before 1961	43,055	4,715	870	1,965	31,115	1,850	2,530

Exhibit 4.1.3. Language and Ethnicity Characteristics of Hamilton-Wentworth Residents, by Municipality, 1991 (continued)

Characteristic	Hamilton-Wentworth	Stoney Creek	Glanbrook	Ancaster	Hamilton	Dundas	Flam-borough
Period of immigration, 1961-1970	25,345	3,815	350	1,185	17,665	1,010	1,315
Period of immigration, 1971-1980	19,335	2,335	170	805	14,520	970	525
Period of immigration, 1981-1991 (16)	20,985	1,315	50	435	18,285	400	500
Period of immigration, 1981-1987	10,295	735	20	280	8,680	270	310
Period of immigration, 1988-1991 (16)	10,690	580	25	155	9,605	130	185
Age at immigration, 0 - 4 years	12,305	1,565	195	560	8,835	530	620
Age at immigration, 5 - 19 years	30,280	3,760	545	1,355	21,775	1,095	1,750
Age at immigration, 20 years and over	66,130	6,855	700	2,480	50,980	2,615	2,500

Source: Statistics Canada. Profile Series - Part B. Ottawa: Industry, Science and Technology Canada, 1993. 1991 Census of Canada.

Refer to Section 2.3.13. for footnotes.

4.1.4. Employment

Exhibit 4.1.4.1. Employment Characteristics of Hamilton-Wentworth Residents, by Municipality, 1991

Characteristic	Hamilton-Wentworth	Stoney Creek	Glanbrook	Ancaster	Hamilton	Dundas	Flam-borough
Total population (100% data)	451,665	49,968	9,726	21,988	318,499	21,868	29,616
Total population (non-institutional) (1)	446,680	49,460	9,685	21,950	314,915	21,095	29,570
Employment:							
Both Sexes - 15 years and over	358,050	38,375	7,510	16,605	256,080	16,815	22,655
In labour force, both sexes 15+	**236,880**	**27,355**	**5,290**	**11,775**	**163,685**	**11,720**	**17,055**
Employed, both sexes 15+	213,650	24,780	4,845	11,120	145,765	11,015	16,120
Unemployed, both sexes 15+	23,230	2,570	445	655	17,915	705	940
Not in the labour force, both sexes 15+	121,170	11,015	2,225	4,830	92,400	5,100	5,605
Unemployment rate, both sexes 15+	**9.8**	**9.4**	**8.4**	**5.6**	**10.9**	**6.0**	**5.5**
Participation rate, both sexes 15+	66.2	71.3	70.4	70.9	63.9	69.7	75.3
Both Sexes - 15-24 years	62,755	7,100	1,415	2,885	44,630	2,795	3,925
In labour force, both sexes 15-24 years	**43,605**	**5,010**	**960**	**1,920**	**30,655**	**1,975**	**3,090**
Employed, both sexes 15-24 years	36,610	4,185	770	1,650	25,445	1,775	2,785
Unemployed, both sexes 15-24 years	6,990	825	185	270	5,210	200	300
Not in the labour force, both sexes 15-24 years	19,150	2,095	460	960	13,975	825	835
Unemployment rate, both sexes 15-24 years	**16.0**	**16.5**	**19.3**	**14.1**	**17.0**	**10.1**	**9.7**
Participation rate, both sexes 15-24 years	69.5	70.6	67.8	66.6	68.7	70.7	78.7
Both Sexes - 25 years and over	295,300	31,270	6,095	13,730	211,445	14,020	18,735
In labour force, both sexes 25+	**193,275**	**22,350**	**4,330**	**9,855**	**133,025**	**9,745**	**13,965**
Employed, both sexes 25+	177,040	20,600	4,080	9,470	120,315	9,240	13,335
Unemployed, both sexes 25+	16,240	1,750	255	385	12,710	505	635
Not in the labour force, both sexes 25+	102,020	8,920	1,765	3,870	78,420	4,275	4,765
Unemployment rate, both sexes 25+	**8.4**	**7.8**	**5.9**	**3.9**	**9.6**	**5.2**	**4.5**
Participation rate, both sexes 25+	65.5	71.5	71.0	71.8	62.9	69.5	74.5
Males - 15 years and over	173,395	18,930	3,830	8,265	122,975	7,935	11,460
In labour force, males 15+	**128,985**	**15,005**	**3,010**	**6,555**	**88,805**	**6,145**	**9,455**
Employed, males 15+	115,205	13,640	2,745	6,225	77,975	5,715	8,905
Unemployed, males 15+	13,775	1,370	260	335	10,835	430	550
Not in the labour force, males 15+	44,415	3,920	820	1,705	34,170	1,790	2,000
Unemployment rate, males 15+	**10.7**	**9.1**	**8.6**	**5.1**	**12.2**	**7.0**	**5.8**

Exhibit 4.1.4.1. Employment Characteristics of Hamilton-Wentworth Residents, by Municipality, 1991 (continued)

Characteristic	Hamilton-Wentworth	Stoney Creek	Glanbrook	Ancaster	Hamilton	Dundas	Flam-borough
Participation rate, males 15+	74.4	79.3	78.6	79.3	72.2	77.4	82.5
Males - 15-24 years	31,440	3,665	735	1,570	21,990	1,430	2,050
In labour force, males 15-24 years	**22,455**	**2,650**	**535**	**1,065**	**15,590**	**1,000**	**1,615**
Employed, males 15-24 years	18,165	2,170	405	915	12,370	865	1,440
Unemployed, males 15-24 years	4,290	480	130	145	3,220	135	175
Not in the labour force, males 15-24 years	8,985	1,015	200	505	6,400	430	435
Unemployment rate, males 15-24 years	**19.1**	**18.1**	**24.3**	**13.6**	**20.7**	**13.5**	**10.8**
Participation rate, males 15-24 years	71.4	72.3	72.8	67.8	70.9	69.9	78.8
Males - 25 years and over	141,955	15,265	3,095	6,695	100,985	6,500	9,410
In labour force, males 25+	**106,530**	**12,360**	**2,470**	**5,490**	**73,215**	**5,145**	**7,845**
Employed, males 25+	97,035	11,470	2,340	5,300	65,605	4,855	7,465
Unemployed, males 25+	9,490	885	130	190	7,615	290	380
Not in the labour force, males 25+	35,430	2,905	620	1,205	27,775	1,355	1,570
Unemployment rate, males 25+	**8.9**	**7.2**	**5.3**	**3.5**	**10.4**	**5.6**	**4.8**
Participation rate, males 25+	75.0	81.0	79.8	82.0	72.5	79.2	83.4
Females - 15 years and over	184,650	19,440	3,685	8,345	133,100	8,880	11,200
In labour force, females 15+	**107,900**	**12,350**	**2,285**	**5,220**	**74,875**	**5,575**	**7,595**
Employed, females 15+	98,445	11,140	2,100	4,900	67,790	5,300	7,215
Unemployed, females 15+	9,450	1,205	185	320	7,080	280	385
Not in the labour force, females 15+	76,755	7,095	1,405	3,125	58,230	3,310	3,600
Unemployment rate, females 15+	**8.8**	**9.8**	**8.1**	**6.1**	**9.5**	**5.0**	**5.1**
Participation rate, females 15+	58.4	63.5	62.0	62.6	56.3	62.8	67.8
Employed, females 15+							
Females - 15-24 years	31,310	3,435	685	1,315	22,640	1,370	1,875
In labour force, females 15-24 years	**21,150**	**2,350**	**425**	**855**	**15,065**	**975**	**1,475**
Employed, females 15 - 24	18,445	2,010	370	730	13,080	915	1,345
Unemployed, females 15-24 years	2,705	345	55	120	1,985	60	130
Not in the labour force, females 15-24 years	10,165	1,075	255	455	7,575	390	400
Unemployment rate, females 15-24 years	**12.8**	**14.7**	**12.9**	**14.0**	**13.2**	**6.2**	**8.8**
Participation rate, females 15-24 years	67.6	68.4	62.0	65.0	66.5	71.2	78.7

Exhibit 4.1.4.1. Employment Characteristics of Hamilton-Wentworth Residents, by Municipality, 1991 (continued)

Characteristic	Hamilton-Wentworth	Stoney Creek	Glanbrook	Ancaster	Hamilton	Dundas	Flam-borough
Females - 25 years and over	153,345	16,005	3,005	7,030	110,460	7,515	9,325
In labour force, females 25+	**86,750**	**9,995**	**1,855**	**4,365**	**59,810**	**4,600**	**6,120**
Employed, females 25+	80,000	9,130	1,735	4,170	54,715	4,385	5,865
Unemployed, females 25+	6,750	865	120	195	5,100	215	255
Not in the labour force, females 25+	66,595	6,015	1,145	2,670	50,650	2,920	3,200
Unemployment rate, females 25+	**7.8**	**8.7**	**6.5**	**4.5**	**8.5**	**4.7**	**4.2**
Participation rate, females 25+	56.6	62.4	61.7	62.1	54.1	61.2	65.6
Females 15+ with no children at home (22)	106,795	9,965	1,915	4,160	80,040	5,025	5,685
In the labour force, no children (22)	**55,710**	**5,505**	**1,020**	**2,085**	**40,870**	**2,760**	**3,470**
Employed, no children (22)	50,905	4,935	900	1,900	37,240	2,660	3,275
Unemployed, no children (22)	4,805	570	120	185	3,635	105	195
Not in the labour force, no children (22)	51,085	4,455	890	2,080	39,170	2,265	2,215
Unemployment rate, no children (22)	**8.6**	**10.4**	**11.8**	**8.9**	**8.9**	**3.8**	**5.6**
Participation rate, no children (22)	52.2	55.2	53.3	50.1	51.1	54.9	61.0
Females 15+ with children at home (22)	76,680	9,420	1,750	4,135	52,230	3,715	5,430
In the labour force, with children (22)	**51,515**	**6,800**	**1,250**	**3,110**	**33,565**	**2,715**	**4,075**
Employed, with children (22)	46,930	6,170	1,190	2,975	30,165	2,550	3,890
Unemployed, with children (22)	4,580	635	60	135	3,400	170	185
Not in the labour force, with children (22)	25,165	2,615	510	1,030	18,665	995	1,350
Unemployment rate, with children (22)	**8.9**	**9.3**	**4.8**	**4.3**	**10.1**	**6.3**	**4.5**
Participation rate, with children (22)	67.2	72.2	71.4	75.2	64.3	73.1	75.0
With children under 6 years only (22)	15,375	1,690	300	740	10,970	685	1,005
In the labour force (22)	**10,115**	**1,225**	**225**	**555**	**6,870**	**490**	**745**
Employed (22)	8,725	1,020	225	515	5,840	445	685
Unemployed (22)	1,390	210	0	40	1,030	50	60
Not in the labour force (22)	5,260	460	70	185	4,100	190	255
Unemployment rate (22)	**13.7**	**17.1**	**0.0**	**7.2**	**15.0**	**10.2**	**8.1**
Participation rate (22)	65.8	72.5	75.0	75.0	62.6	71.5	74.1
With children < 6 years and children 6+ years (22)	10,620	1,335	280	685	6,945	485	900
In the labour force (22)	**6,325**	**855**	**175**	**455**	**3,905**	**345**	**590**

Exhibit 4.1.4.1. Employment Characteristics of Hamilton-Wentworth Residents, by Municipality, 1991 (continued)

Characteristic	Hamilton-Wentworth	Stoney Creek	Glanbrook	Ancaster	Hamilton	Dundas	Flam-borough
Employed (22)	5,665	770	165	445	3,395	320	570
Unemployed (22)	660	85	10	15	510	30	20
Not in the labour force (22)	4,295	480	105	225	3,035	145	305
Unemployment rate (22)	**10.4**	**9.9**	**5.7**	**3.3**	**13.1**	**8.7**	**3.4**
Participation rate (22)	59.6	64.0	62.5	66.4	56.2	71.1	65.6
With children 6 years and over only (22)	50,680	6,395	1,180	2,715	34,325	2,545	3,525
In the labour force (22)	**35,075**	**4,715**	**845**	**2,095**	**22,790**	**1,880**	**2,735**
Employed (22)	32,545	4,375	795	2,015	20,935	1,785	2,635
Unemployed (22)	2,530	345	50	80	1,855	95	105
Not in the labour force (22)	15,610	1,675	335	620	11,530	665	790
Unemployment rate (22)	**7.2**	**7.3**	**5.9**	**3.8**	**8.1**	**5.1**	**3.8**
Participation rate (22)	69.2	73.7	71.6	77.2	66.4	73.9	77.6
Total labour force 15 years and over	**236,880**	**27,355**	**5,290**	**11,780**	**163,680**	**11,720**	**17,055**
Not applicable (23)	3,660	355	35	70	3,020	80	95
All industries (24) (25)	233,220	27,000	5,255	11,710	160,660	11,635	16,960
Agricultural and related service industries	4,040	295	330	420	1,315	120	1,560
Fishing and trapping industries	40	10	0	0	30	0	0
Logging and forestry industries	140	0	10	15	90	0	30
Mining (incl. milling), quarrying & oil well inds.	530	20	0	50	285	45	130
Manufacturing industries	52,885	7,670	1,065	1,775	37,540	1,935	2,900
Construction industries	16,610	2,215	635	715	10,965	555	1,520
Transportation and storage industries	6,590	795	315	315	4,255	220	695
Communication and other utility industries	6,105	725	135	325	4,170	305	440
Wholesale trade industries	9,855	1,305	260	385	6,680	470	755
Retail trade industries	31,580	3,950	675	1,410	22,110	1,520	1,915
Finance and insurance industries	8,260	985	165	440	5,705	440	520
Real estate operator and insurance agent industries	3,925	470	50	275	2,720	205	205
Business service industries	11,435	1,210	160	805	7,630	715	920
Government service industries	11,455	1,230	255	690	7,630	790	860
Educational service industries	18,190	1,450	280	1,590	12,055	1,570	1,245
Health and social service industries	23,100	1,890	480	1,475	16,545	1,450	1,260
Accommodation, food and beverage service industries	12,625	1,245	130	370	9,580	455	840

Exhibit 4.1.4.1. Employment Characteristics of Hamilton-Wentworth Residents, by Municipality, 1991 (continued)

Characteristic	Hamilton-Wentworth	Stoney Creek	Glanbrook	Ancaster	Hamilton	Dundas	Flam-borough
Other service industries	15,845	1,530	310	655	11,355	835	1,155
Males - All occupations (Major groups) (24) (25)	**127,270**	**14,880**	**2,995**	**6,530**	**87,335**	**6,100**	**9,425**
Managerial, administrative and related occupations	14,085	1,870	355	1,480	7,665	1,000	1,720
Occupations in natural sciences, engineering and mat	7,310	885	125	465	4,975	375	485
Occupations in social sciences and related fields	1,420	100	25	160	905	175	55
Occupations in religion	400	40	0	20	290	20	20
Teaching and related occupations	4,140	310	55	485	2,625	465	200
Occupations in medicine and health	2,385	145	60	350	1,385	245	200
Artistic, literary, recreational and related occupations	1,655	140	25	95	1,180	130	85
Clerical and related occupations	9,605	1,155	165	345	6,975	430	540
Sales occupations	10,550	1,430	195	670	6,865	590	810
Service occupations	10,750	900	85	430	8,325	440	570
Farming, horticultural and animal husbandry occupatio	3,090	230	195	295	1,450	135	790
Fishing, trapping and related occupations	0	0	0	0	0	0	0
Forestry and logging occupations	110	0	0	15	85	0	0
Mining & quarrying incl. oil & gas field occupations	460	70	30	10	305	15	35
Processing occupations	7,625	915	110	125	6,000	200	275
Machining and related occupations	7,025	1,005	170	95	5,185	210	360
Product fabricating, assembling & repairing occupation	12,680	1,545	430	415	8,945	470	880
Construction trades occupations	13,720	1,715	500	505	9,355	500	1,140
Transport equipment operating occupations	7,140	770	275	195	5,050	265	575
Other crafts and equipment operating occupations	4,370	615	40	105	3,300	105	205
Other crafts and equipment operating occupations	1,755	180	35	20	1,270	95	145
Occupations not elsewhere classified	6,980	865	130	235	5,185	235	325
Females - All occupations (Major groups) (24) (25)	**105,950**	**12,120**	**2,255**	**5,180**	**73,325**	**5,535**	**7,535**
Managerial, administrative and related occupations	10,090	1,220	265	600	6,385	665	960
Occupations in nat. sciences, engineering and math	1,555	180	30	85	1,030	90	145
Occupations in social sciences and related fields	3,200	235	60	175	2,305	235	185
Occupations in religion	180	10	10	10	140	10	0
Teaching and related occupations	6,815	715	100	685	4,245	490	575
Occupations in medicine and health	11,125	1,050	235	815	7,605	715	705
Artistic, literary, recreational and related occupations	1,230	130	15	95	745	105	135

Exhibit 4.1.4.1. Employment Characteristics of Hamilton-Wentworth Residents, by Municipality, 1991 (continued)

Characteristic	Hamilton-Wentworth	Stoney Creek	Glanbrook	Ancaster	Hamilton	Dundas	Flam-borough
Clerical and related occupations	32,245	3,885	780	1,430	22,130	1,750	2,275
Sales occupations	11,205	1,525	265	520	7,715	490	685
Service occupations	16,540	1,530	240	415	12,810	680	855
Farming, horticultural and animal husbandry occupatio	1,140	60	100	110	495	35	340
Fishing, trapping and related occupations	0	0	0	0	0	0	0
Forestry and logging occupations	30	0	0	0	15	0	0
Mining & quarrying incl. oil & gas field occupations	15	0	0	0	0	0	0
Processing occupations	1,760	240	15	50	1,280	50	120
Machining and related occupations	540	115	0	10	370	0	45
Product fabricating, assembling & repairing occupation	3,460	560	0	30	2,680	60	125
Construction trades occupations	270	15	0	20	195	10	20
Transport equipment operating occupations	1,060	110	50	25	690	55	125
Other crafts and equipment operating occupations	1,345	235	10	10	1,020	10	50
Other crafts and equipment operating occupations	535	80	15	0	370	30	35
Occupations not elsewhere classified	1,615	230	40	75	1,070	60	145
Males - All classes of worker (25)	**127,270**	**14,880**	**3,000**	**6,525**	**87,335**	**6,105**	**9,425**
Paid-workers	120,270	14,205	2,610	5,890	83,570	5,590	8,410
Employees	116,375	13,580	2,430	5,405	81,880	5,360	7,720
Self-employed (incorporated)	3,900	625	180	480	1,695	230	690
Self-employed (unincorporated)	6,890	670	390	635	3,725	510	970
Unpaid family workers	105	10	0	10	40	10	45
Females - All classes of worker (25)	**105,950**	**12,120**	**2,255**	**5,180**	**73,325**	**5,535**	**7,535**
Paid-workers	102,390	11,830	2,135	4,895	71,325	5,205	6,995
Employees	101,100	11,635	2,085	4,715	70,840	5,135	6,690
Self-employed (incorporated)	1,290	195	45	180	485	75	310
Self-employed (unincorporated)	3,185	245	90	220	1,905	285	435
Unpaid family workers	375	45	30	60	95	40	105
Place of Employment (males):							
Males in employed labour force	115,205	13,640	2,745	6,225	77,970	5,715	8,905
Usual place of work	107,870	12,830	2,295	5,630	74,215	5,300	7,590
In census subdivision of residence	56,290	2,280	260	715	50,750	1,070	1,210

Exhibit 4.1.4.1. Employment Characteristics of Hamilton-Wentworth Residents, by Municipality, 1991 (continued)

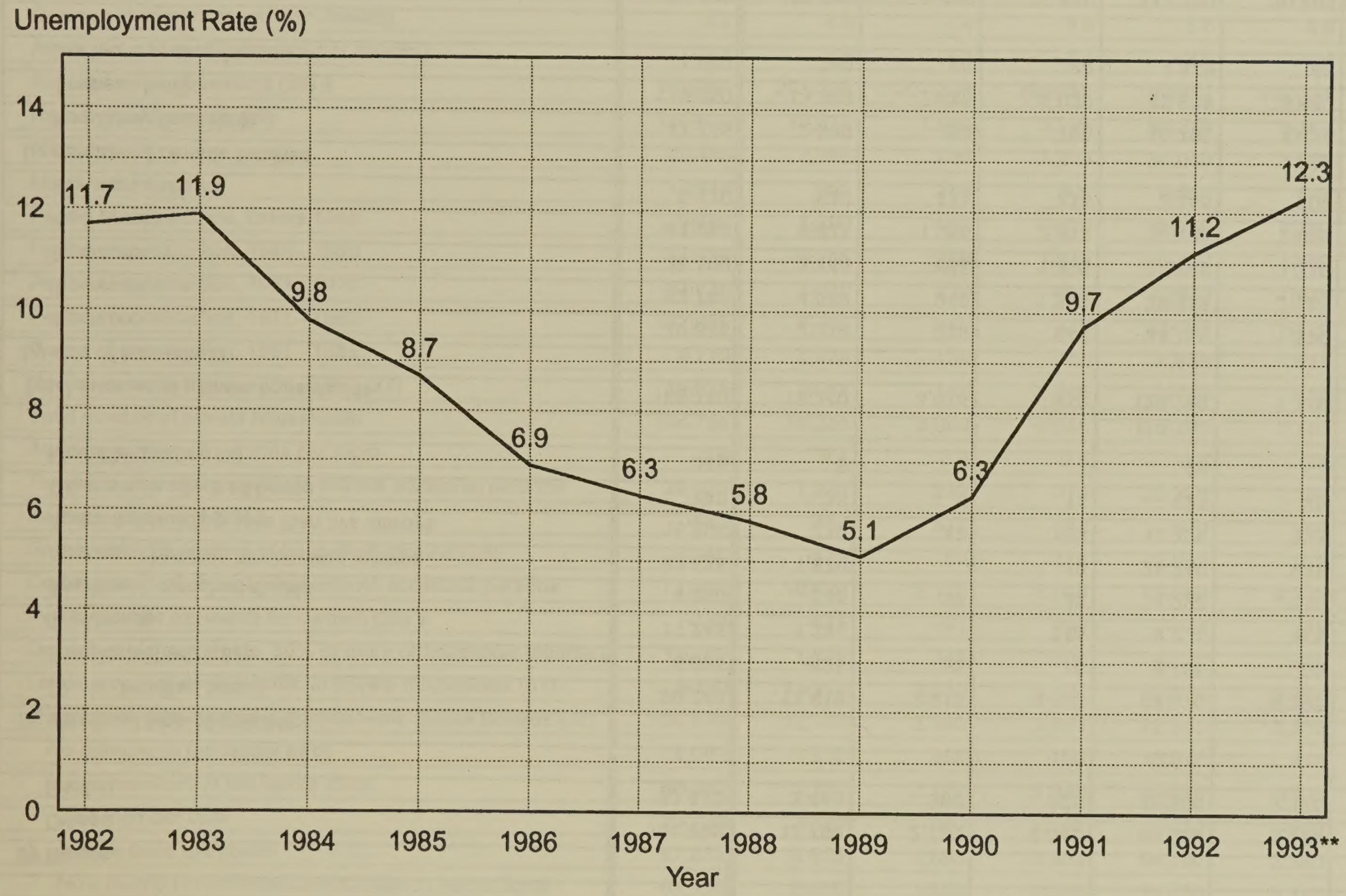
Characteristic	Hamilton-Wentworth	Stoney Creek	Glanbrook	Ancaster	Hamilton	Dundas	Flam-borough
In different census subdivision	51,580	10,550	2,035	4,915	23,465	4,230	6,380
In same census division	24,690	7,665	1,525	3,595	6,390	2,860	2,655
At home	5,525	630	350	450	2,735	290	1,070
Outside Canada	260	25	15	25	155	15	30
No usual place of work	1,555	160	90	120	870	115	210
Place of Employment (females):							
Females in employed labour force	98,450	11,140	2,100	4,900	67,790	5,300	7,210
Usual place of work	93,010	10,655	1,800	4,420	65,100	4,845	6,200
In census subdivision of residence	57,235	2,700	230	785	51,080	1,305	1,135
In different census subdivision	35,775	7,955	1,570	3,635	14,020	3,540	5,065
In same census division	21,190	6,255	1,365	2,995	5,310	2,770	2,495
At home	4,875	430	275	475	2,320	425	945
Outside Canada	160	10	10	10	100	10	25
No usual place of work	405	45	20	0	270	25	45

Source: Statistics Canada. Profile Series - Part B. Ottawa: Industry, Science and Technology Canada, 1993. 1991 Census of Canada.

See Census dat footnotes at end of Section 5.1.

Refer to Section 2.3.13. for footnotes.

Exhibit 4.1.4.2. ***Unemployment Rates*** **for** ***Hamilton Census Metropolitan Area****, 1982-1993



* Hamilton Census Metropolitan Area (CMA) contains Hamilton-Wentworth as well as Grimsby and Burlington. Unemployment data for this 12 year period is not available for Hamilton-Wentworth exclusively.

**1993 figure not annual average since data not available for full year, instead 12.3% represents the rate for June 1993

Source: Social Planning & Research Council (G. DeSantis). Tracking Community Trends in Hamilton-Wentworth, 1993.

Exhibit 4.1.5.1. Housing Characteristics of Hamilton-Wentworth Residents, by Municipality, 1991

Characteristic	Hamilton-Wentworth	Stoney Creek	Glanbrook	Ancaster	Hamilton	Dundas	Flam-borough
Dwelling and Household Characteristics							
Total number of occupied private dwellings	168,735	16,240	3,075	6,865	125,200	7,745	9,615
by tenure							
Owned	104,895	12,790	2,720	6,340	69,300	5,570	8,170
Rented	63,840	3,445	360	525	55,900	2,175	1,445
by structural type of dwelling							
Single-detached house	99,240	11,815	2,915	6,460	64,670	5,195	8,185
Semi-detached house	5,655	435	55	70	4,785	205	105
Row house	11,245	1,235	-	115	9,325	465	100
Apartment, detached duplex	4,690	135	50	25	4,220	110	155
Apartment building, five or more storeys	31,425	1,870	-	10	28,240	915	390
Apartment building, less than five storeys	15,300	710	45	165	13,325	825	225
Other single attached house	740	35	5	15	625	25	25
Movable dwelling (5)	445	5	-	-	10	-	430
Total number of private households	168,740	16,240	3,075	6,870	125,200	7,740	9,610
by size of household							
1 person	40,645	2,210	315	640	34,755	1,570	1,150
2 persons	52,745	4,580	940	1,990	39,615	2,565	3,050
3 persons	29,100	3,140	585	1,305	21,005	1,310	1,760
4 - 5 persons	41,080	5,675	1,065	2,615	26,465	2,090	3,160
6 or more persons	5,170	630	175	315	3,355	205	490
by number of census families							
Non-family household	47,735	2,580	390	760	40,795	1,825	1,385
1 census family	119,050	13,380	2,635	6,030	83,035	5,860	8,115
2 or more census families	1,950	280	50	80	1,370	65	115
Number of persons in private households	443,170	49,240	9,625	21,830	312,220	20,895	29,360
Average number of persons per household	2.6	3	3.1	3.2	2.5	2.7	3.1
Housing Characteristics							
Total number of occupied private dwellings	168,740	16,235	3,075	6,865	125,200	7,745	9,610

Exhibit 4.1.5.1. Housing Characteristics of Hamilton-Wentworth Residents, by Municipality, 1991 (continued)

Characteristic	Hamilton-Wentworth	Stoney Creek	Glanbrook	Ancaster	Hamilton	Dundas	Flam-borough
Housing Characteristics Continued							
Average number of rooms per dwelling	6.2	6.9	7.4	8.0	5.8	6.8	7.4
Average number of bedrooms per dwelling	2.6	2.9	3.1	3.3	2.4	2.8	3.1
Average value of dwelling (26) $	180,861	201,328	201,374	269,655	159,937	207,375	238,262
Regular maintenance only	116,620	12,315	1,885	5,205	85,270	5,605	6,350
Minor repairs	39,465	2,965	930	1,355	30,080	1,695	2,435
Major repairs	12,645	955	265	305	9,850	445	825
Period of construction, before 1946	40,685	1,290	550	810	34,450	1,700	1,885
Period of construction, 1946 - 1960	37,930	3,285	940	1,915	28,250	1,880	1,655
Period of construction, 1961 - 1970	32,825	2,070	770	925	25,690	1,625	1,750
Period of construction, 1971 - 1980	32,055	4,305	540	575	23,465	1,220	1,955
Period of construction, 1981 - 1985	9,710	2,320	130	975	4,905	515	860
Period of construction, 1986 - 1991 (27)	15,525	2,965	145	1,665	8,430	810	1,510
Total number of private households	168,735	16,235	3,080	6,870	125,200	7,740	9,615
Average number of persons per room	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Tenant one-family households without additional persons	29,835	1,935	210	375	25,375	1,110	835
Average gross rent (28) $	580	642	572	742	570	654	597
Gross rent 30% or more of household income (29)	9,065	515	55	115	8,045	225	105
Owner one-family households without additional persons	77,965	10,420	2,175	5,040	49,680	4,335	6,320
Average major payments for owners (26) $	788	825	791	999	733	846	943
Owner's major payments 30% or more of household income (	13,180	1,875	385	700	8,370	655	1,200
Total number of census fams. in private households (31)	123,020	13,950	2,730	6,180	85,820	5,985	8,345
Number of now-married & common-law couple families (32)	106,475	12,740	2,540	5,815	72,265	5,315	7,790
No member in the labour force	18,080	1,610	365	780	13,570	810	935
Some members in the labour force	88,390	11,125	2,170	5,035	58,690	4,505	6,855
One member only	20,720	2,310	480	1,135	14,510	940	1,345
Two or more members	67,670	8,815	1,695	3,900	44,190	3,560	5,505
Now-married or common-law couples in labour force	61,105	8,010	1,535	3,585	39,605	3,245	5,120
Number of lone-parent families	**16,545**	**1,210**	**190**	**365**	**13,555**	**665**	**550**
No member in the labour force	4,275	175	20	25	3,925	90	40
Some members in the labour force	12,270	1,030	170	340	9,630	580	515
Parent in labour force	9,675	855	120	315	7,500	460	430

Source: Statistics Canada. Profile Series - Part B. Ottawa: Industry, Science and Technology Canada, 1993. 1991 Census of Canada.

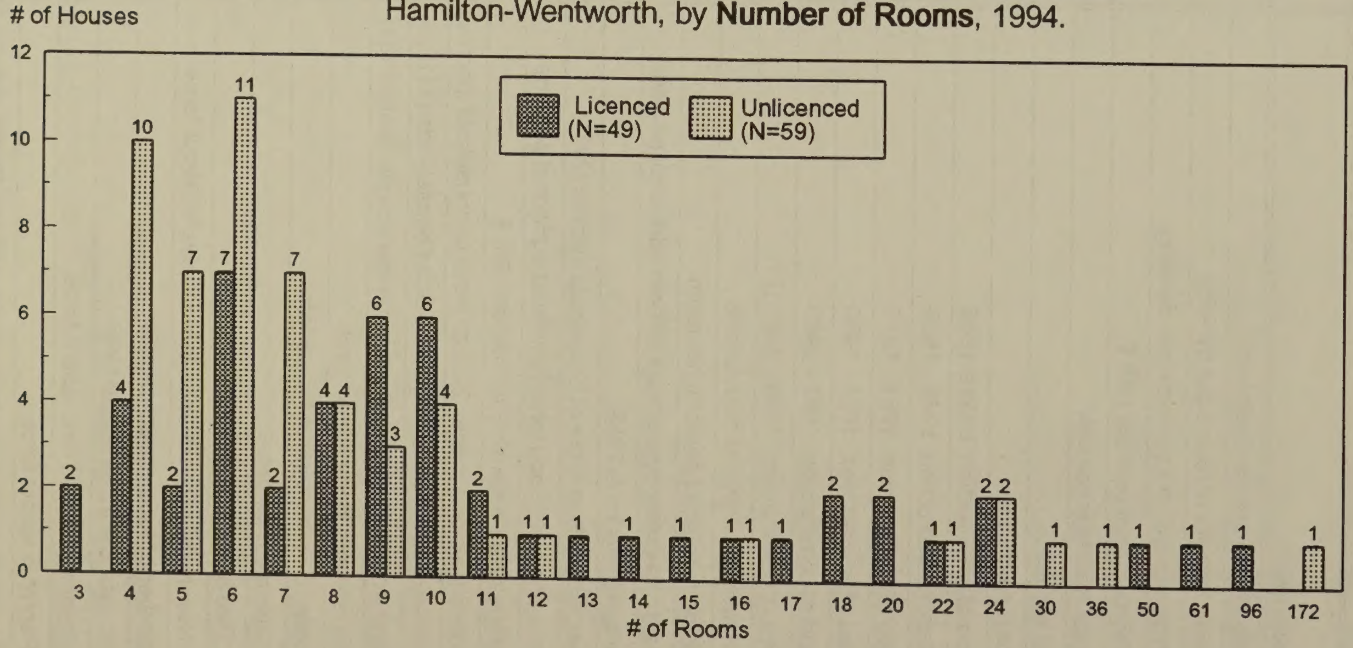
Refer to Section 2.3.13. for footnotes.

Exhibit 4.1.5.2. ***Licenced*** and ***Unlicenced Rooming Houses*** in Hamilton-Wentworth, 1994

	Licenced	Unlicenced	Total
Houses	52	63	115
Rooms			
# Recorded*	20	21	21
Total	690	670	1,360
Average Per House	14	11	
Rents			
# Recorded	20	21	41
Average ($/month)	$270	$275	
Building Type			
# Recorded	44	49	93
House/Semi	25	33	58
Tavern	13	8	21
Low Rise	1	0	1
High Rise	0	1	1
Store Front	5	5	10
Building	0	1	1
Residence	0	1	1

*# Recorded = number of houses providing information on that characteristic.

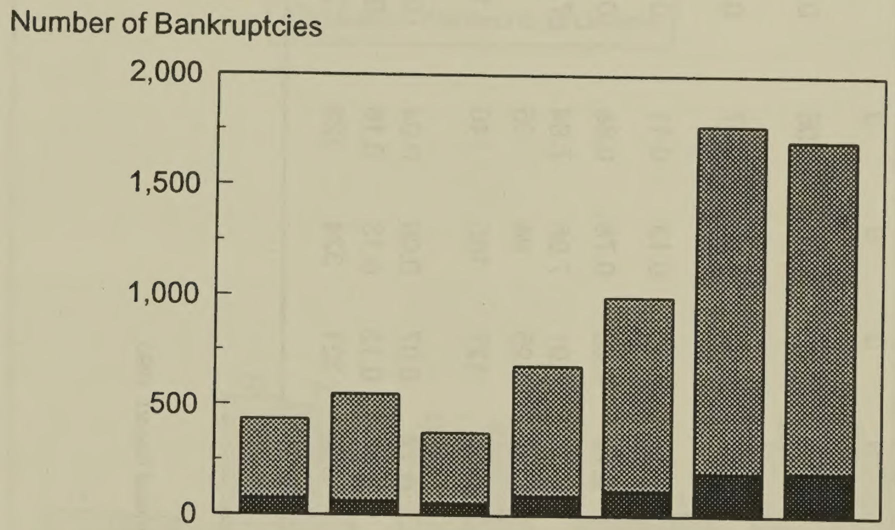
Exhibit 4.1.5.3. ***Licenced*** and ***Unlicenced Rooming Houses*** in Hamilton-Wentworth, by **Number of Rooms**, 1994.



Source: Regional Social Services Departmen (Rosemary Foulds). February 1994. Data gathered by Housing Help Centre.

4.1.6. Economy

Exhibit 4.1.6.1. *Business and Consumer * Bankruptcies* in Hamilton-Wentworth, *1986-1992.*



Year	1986	1987	1988	1989	1990	1991	1992
Business ■	77	64	53	90	115	195	201
Consumer ▨	359	487	322	590	880	1,576	1,504

* Consumer = Personal

Source: Industry and Science Canada. Consumer and Corporate Affairs, Bankruptcy Branch, Hamilton, 572-2847.

Exhibit 4.1.7.1. *Analysis* of *Finished Water** from Regional Municipality of Hamilton-Wentworth Water Treatment Facillity, 1993

Bacteriological or Chemical Components	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year Average
Total Plate Count (col/ml)	1	0	0	1	8	0	1	1	0	0	0	0	1
Free Chlorine (mg/L)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.05	0.01
Total Chlorine (mg/L)	0.99	0.98	0.99	0.98	1.01	0.86	0.83	0.91	0.74	0.87	0.89	0.97	0.92
Turbidity (NTU)	0.17	0.08	0.15	0.25	0.20	0.24	0.27	0.25	0.16	0.13	0.13	0.11	0.18
Fluroride (mg/L)	0.27	0.16	0.16	0.17	0.21	0.23	0.26	0.19	0.19	0.60	0.78	0.88	0.34
pH	7.83	7.86	7.88	7.91	7.64	7.87	7.98	8.06	7.94	7.91	7.95	7.94	7.90
Alkalinity (mg/L)	93	93	96	96	97	95	99	92	94	95	94	95	95
Total Hardness (mg/L)	133	133	129	130	132	133	136	132	128	127	165	140	132
Aluminum (mg/L)	0.11	0.10	0.10	0.12	0.16	0.21	0.19	0.23	0.12	0.07	0.06	0.04	0.13
Ammonia (mg/L)	0.18	0.18	0.20	0.18	0.18	0.18	0.18	0.15	0.11	0.13	0.13	0.16	0.16
Conductivity (umhos/cm)	NA	329	338	351	3514	330	340	333	330	321	324	328	334

*Finished water refers to water which has been treated and is ready for distribution and consumption.

Source: The Regional Municipality of Hamilton-Wentworth, Environmental Services Department. Finished Water Annual Report. 1993.

Note:
85% of Hamilton-Wentworth residents use regional water of which 1% use regional wells (4 in region)
Of the 15% residents not using regional supply, 99% use ground water supply (wells) and 1% used cisterns.

Source: The Regional Municipality of Hamilton-Wentworth, Department of PublicHealth Services. Contact: Bill Hunter.

Note: See also Section 6.2 Task Force on Sustainable Development factsheet on the Environment.

Exhibit 4.2.1.1. *Comparison* of *Smoking Rates* in Hamilton-Wentworth and in Ontario, by *Age*, 1990

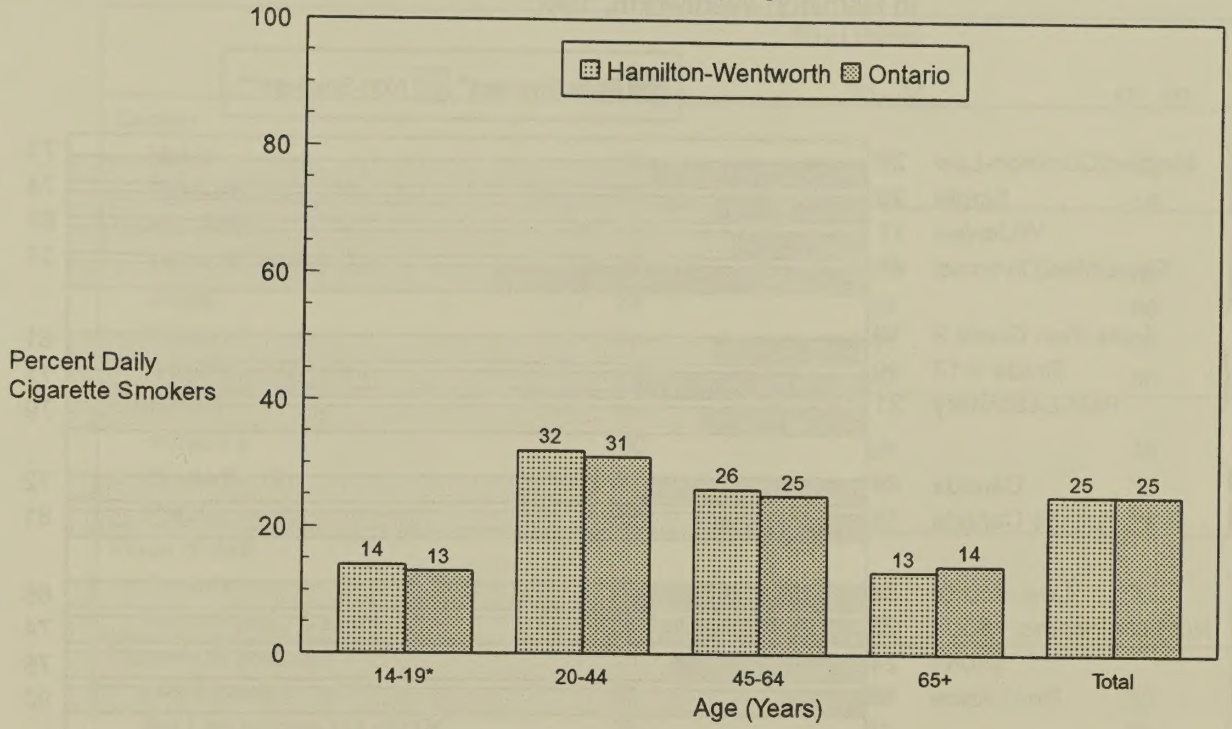
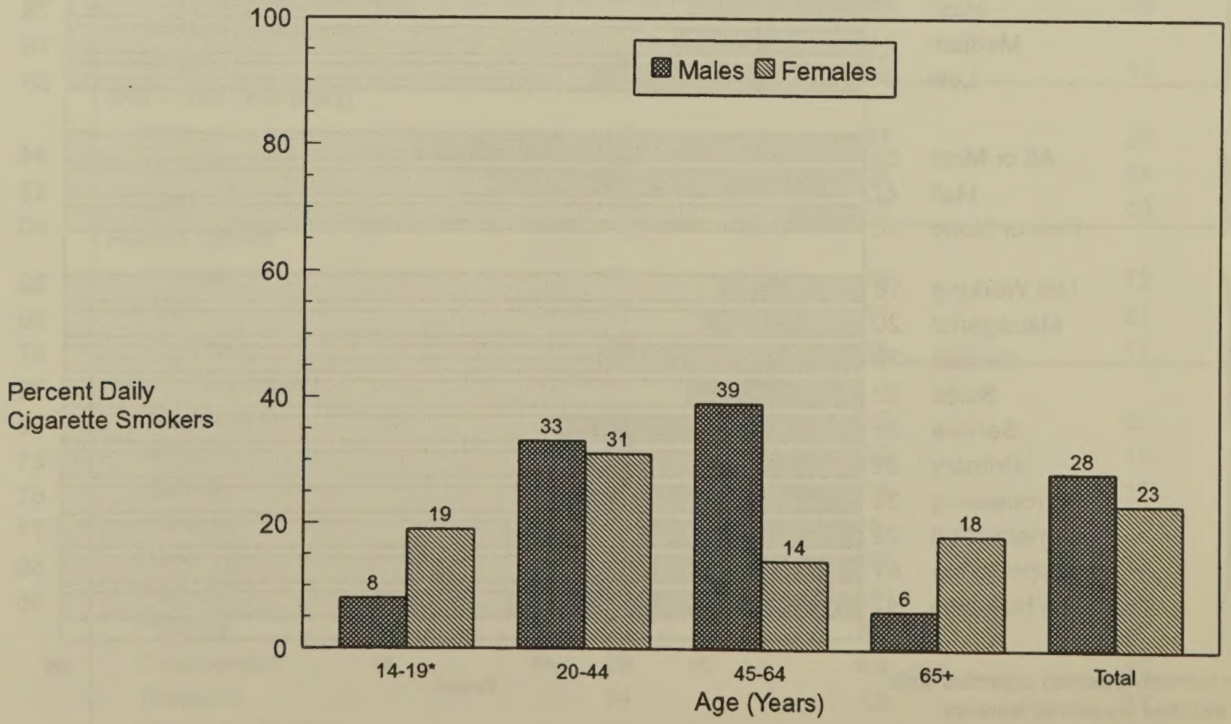
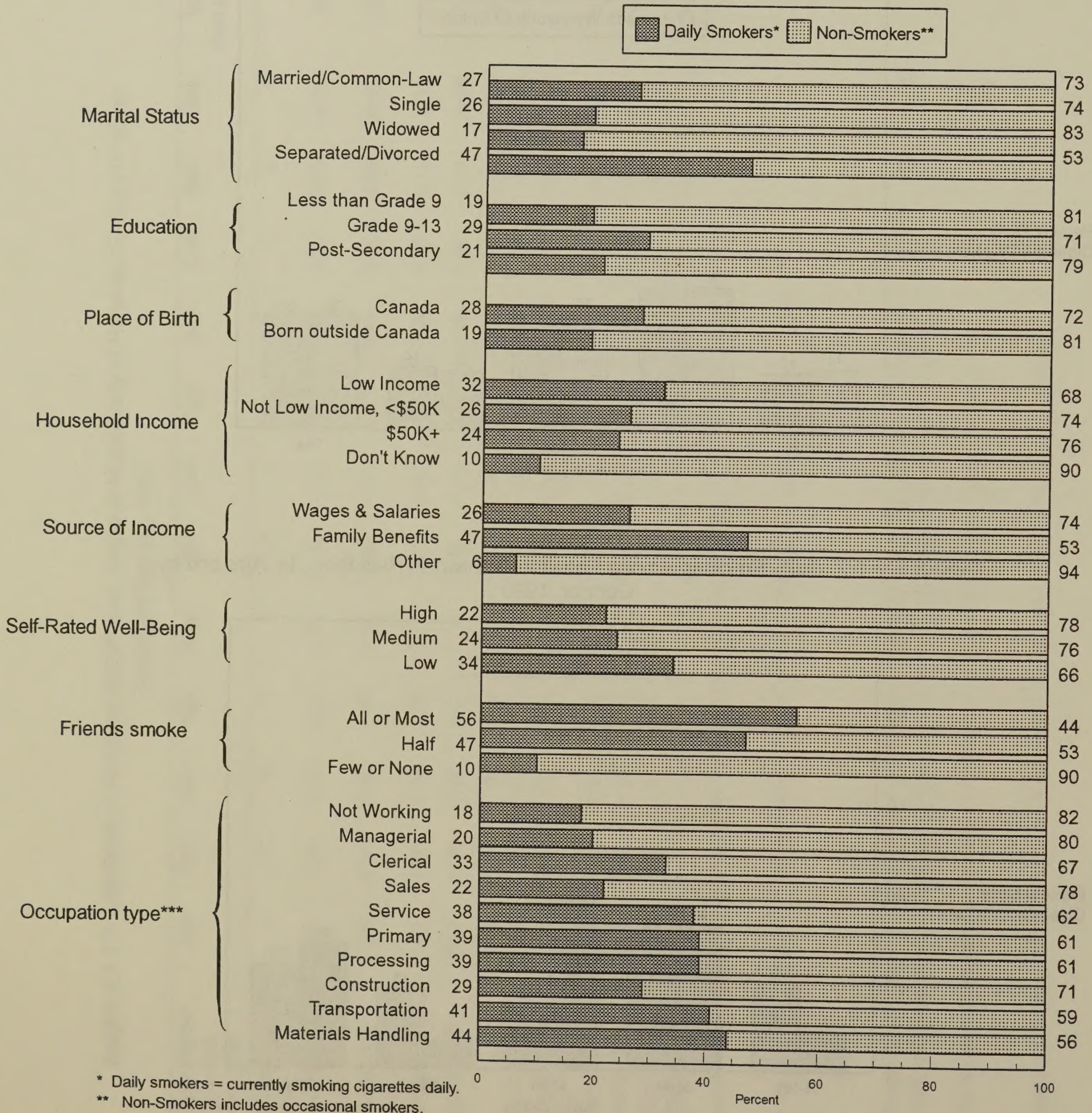


Exhibit 4.2.1.2. *Daily Smoking* Among Hamilton-Wentworth Residents, by *Age* and by *Gender*, 1990



* Percentages in this age group were based on small numbers, and should be interpreted cautiously.
Source: Ontario Ministry of Health, 1990 Ontario Health Survey, 1992.

Exhibit 4.2.1.3. ***Characteristics** of **Daily Smokers*** versus **Non-Smokers***** in Hamilton-Wentworth, 1990



* Daily smokers = currently smoking cigarettes daily.

** Non-Smokers includes occasional smokers.

*** Occupation Type - Refer to Exhibit 1.1 for definitions.

Source: Ontario Ministry of Health. 1990 Ontario Health Survey, 1992.

Note: See also *Infowatch* **Hamilton Butts Out?** in Section 6.1.

Exhibit 4.2.1.4. Percent ***Daily Smoking,*** by ***Age*** and ***Categories,***
Hamilton-Wentworth, 1990

	Age (Years)			
	18 - 29	30 - 44	45 - 59	60 +
Gender				
Males	29	33	42	12
Females	31	33	16	15
Marital Status				
Married/Common Law	39	31	25	15
Single	24	35	69	0
Widowed	N/A	48	51	11
Separated/Divorced	47	49	50	31
Education				
<Grade 9	100	28	36	13
Grade 9 - 13	38	41	30	16
Post Secondary	22	23	21	9
Place of Birth				
Canada	30	35	32	16
Born Outside Canada	28	26	21	12
Household Income				
Low Income	48	59	35	11
Not Low Income but <$50K	28	32	34	12
$50K +	26	28	25	16
Don't Know	22	29	27	16
Source of Income				
Wages	27	30	28	20
Family Benefits/General Welfare Assistance	56	59	58	22
Other	N/A	73	43	9
Self Rated Well-Being				
High	27	31	20	11
Medium	26	34	24	14
Low	43	37	40	14
Friends Smoke				
All/Most	61	60	72	31
Half	38	61	61	33
Few/None	12	15	11	7
Occupation Type				
Not Working	21	38	25	11
Managerial	16	25	15	7
Clerical	29	36	31	64
Sales	27	8	29	19
Service	47	39	22	24
Primary	60	0	35	0
Process	34	40	41	30
Construction	29	14	47	47
Transport	24	52	34	0
Materials Handling	21	57	44	44

Daily Smokers = current daily cigarette smokers.
Refer to Exhibit 1.1 for definitions of categories.

Exhibit 4.2.1.5. Daily Smokers' ***Age of Initiation of Smoking*** in Hamilton-Wentworth, 1990

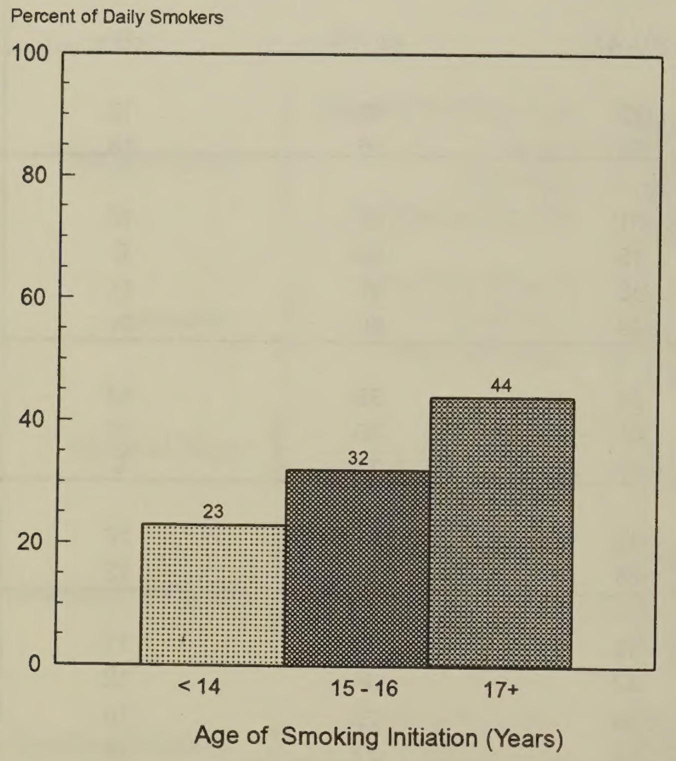


Exhibit 4.2.1.6. Daily Smokers' ***Belief*** That Their ***Smoking*** Will Lead to ***Health Problems***, Hamilton-Wentworth, 1990

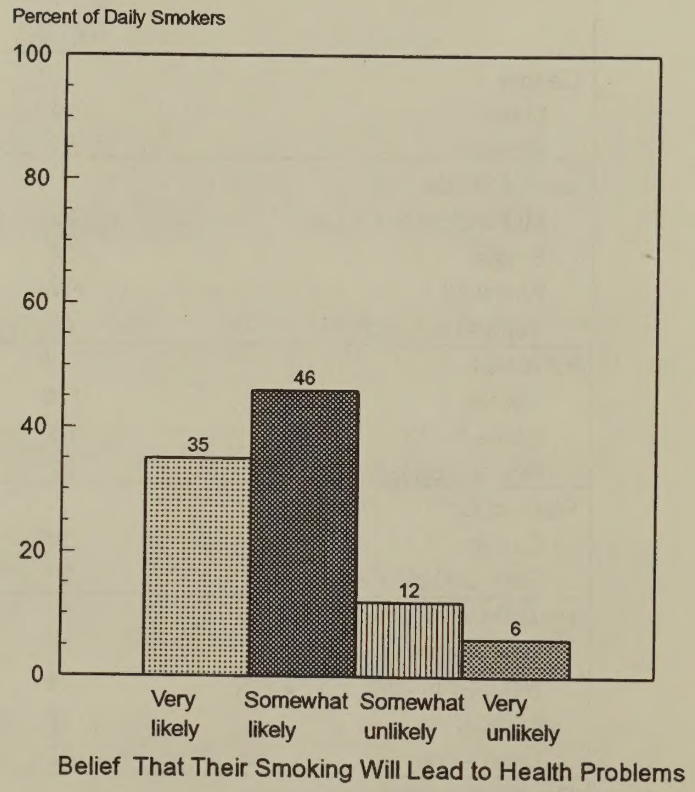


Exhibit *4.2.1.7.* Percent of ***Teenagers (14-19 Years)***, by Whether or Not Their ***Friends Smoke***, by ***Gender***, Hamilton-Wentworth, 1990

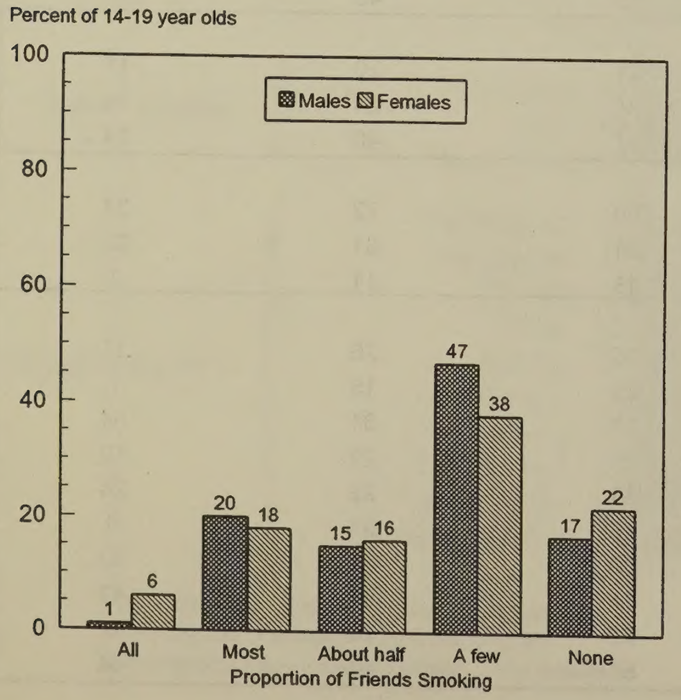
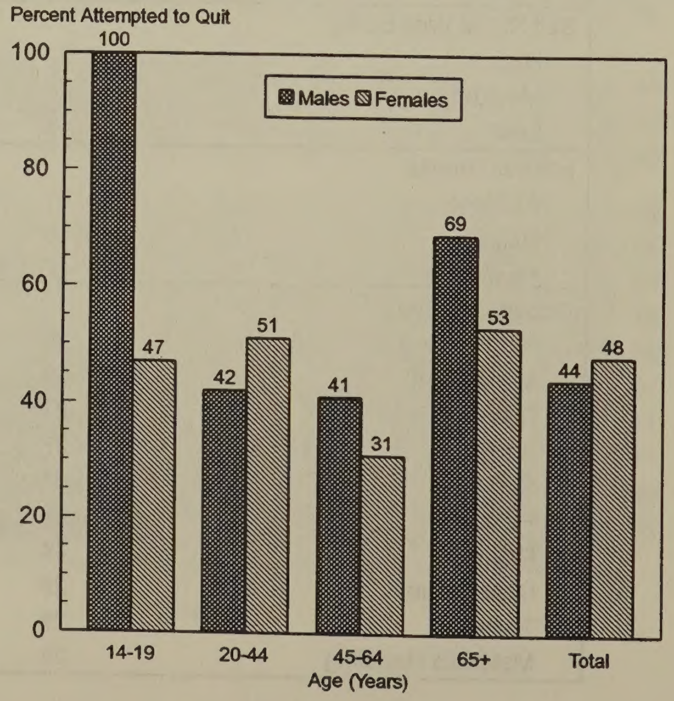


Exhibit 4.2.1.8. Daily Smokers' ***Smoking Cessation Attempts*** Within the ***Past Year***, by ***Gender*** Hamilton-Wentworth, 1990



Source: Ontario Ministry of Health. 1990 Ontario Health Survey, 1992.

Exhibit 4.2.1.9. *Number* of *Cigarettes Smoked Daily*, by *Age*, Hamilton-Wentworth *Males*, 1990

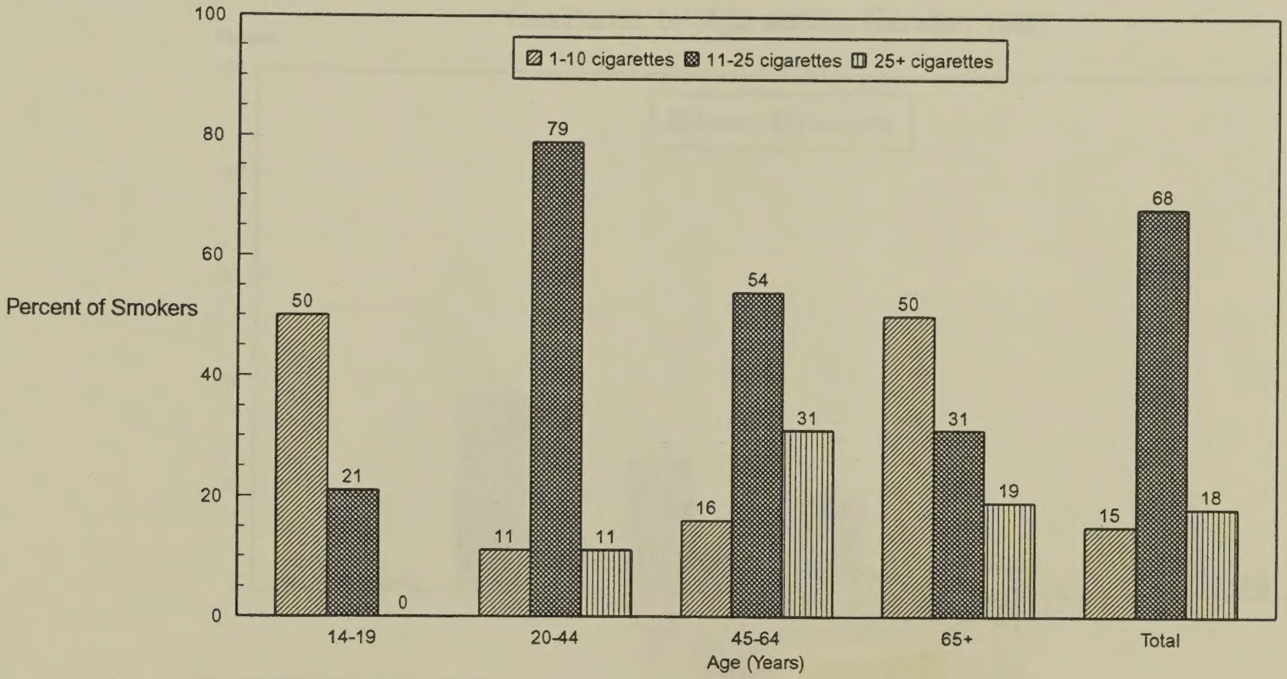
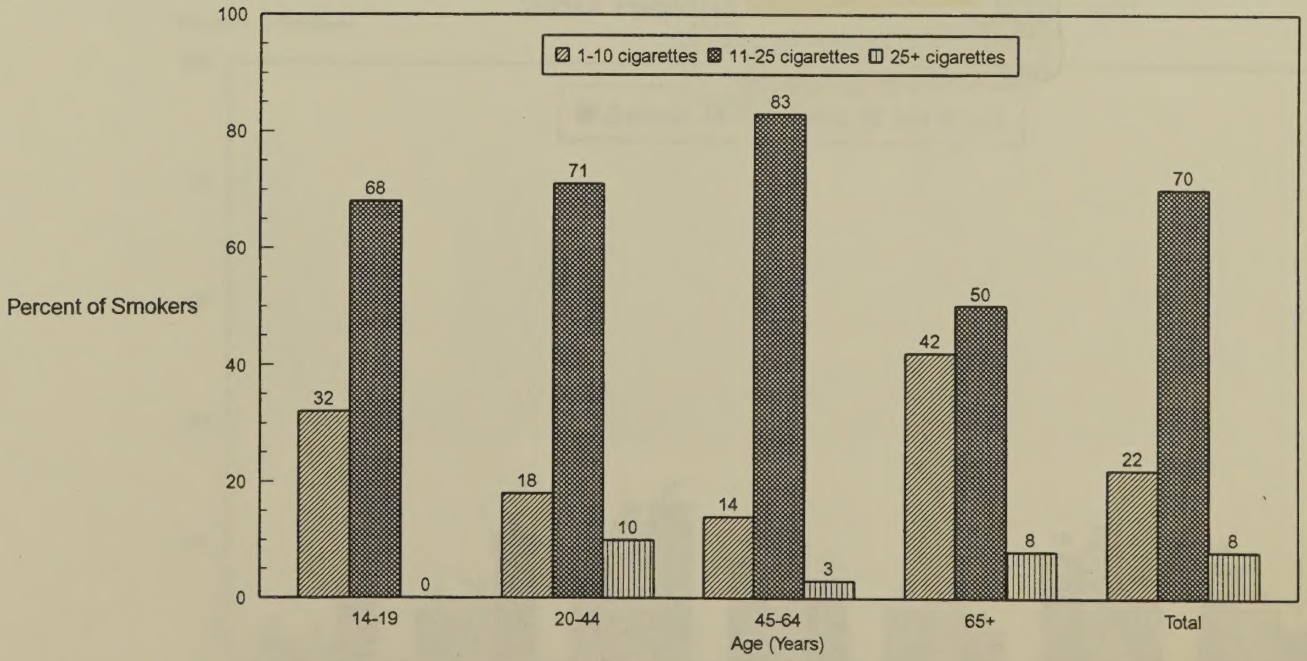


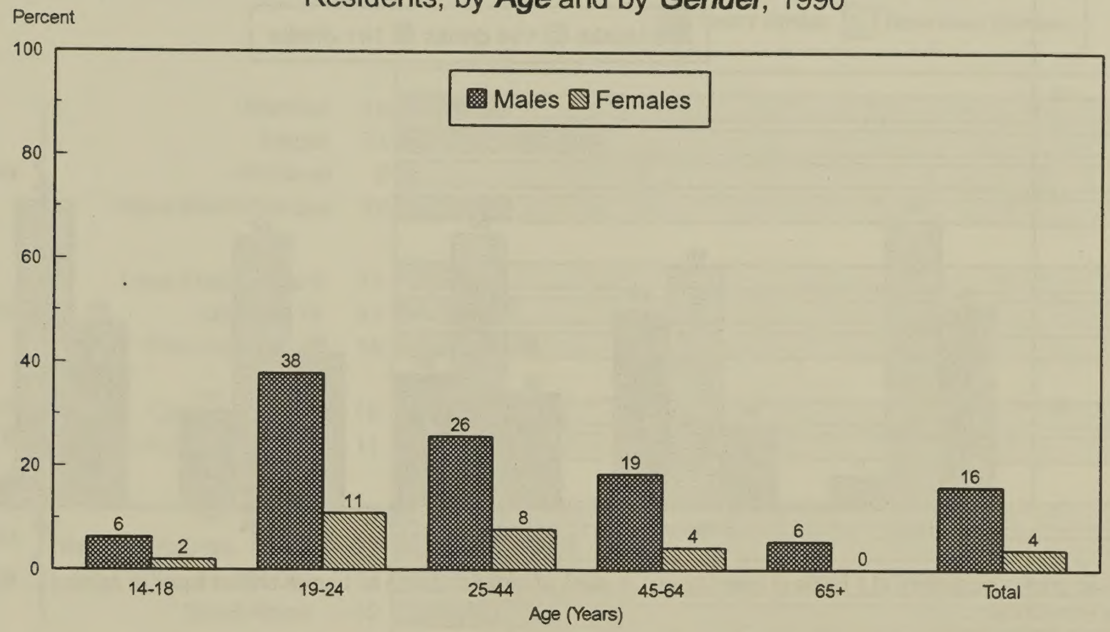
Exhibit 4.2.1.10. *Number* of *Cigarettes Smoked Daily*, by *Age*, Hamilton-Wentworth *Females*, 1990



Source: Ontario Ministry of Health. 1990 Ontario Health Survey, 1992.

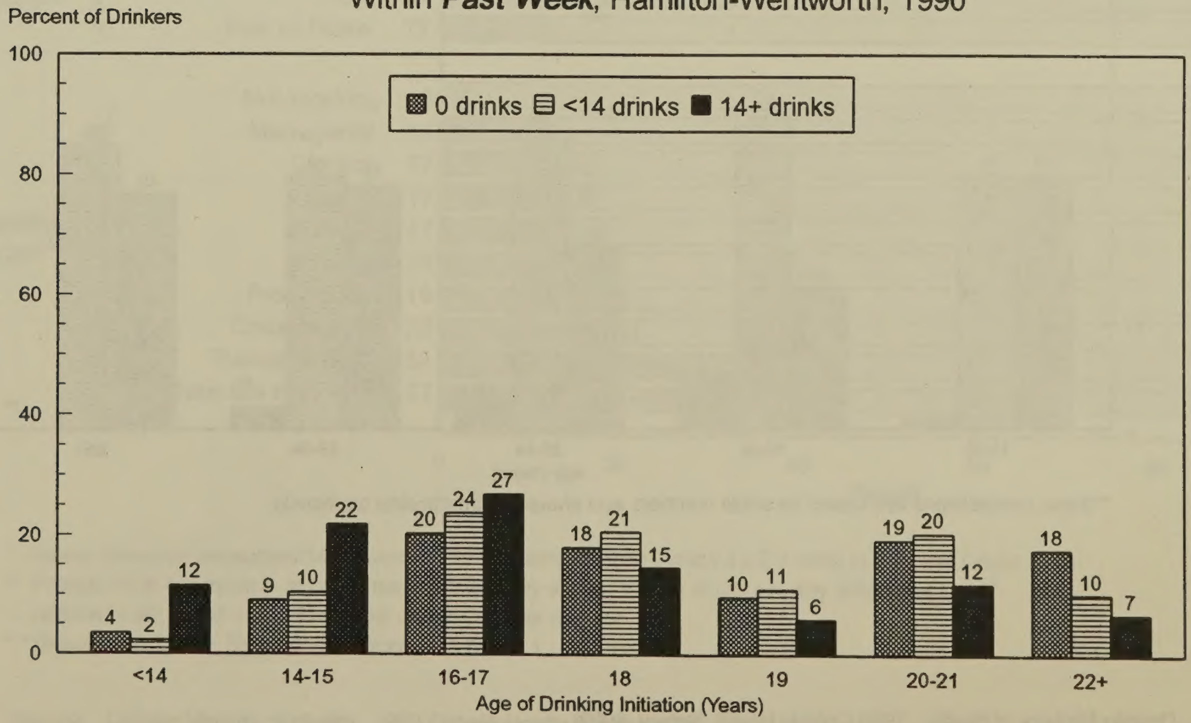
Note: See also Exhibit 3.2.9. for data on Tobacco Attributable Mortality.

Exhibit 4.2.2.1. Percent of ***Heavy Drinkers**** Among Hamilton-Wentworth Residents, by ***Age*** and by ***Gender***, 1990



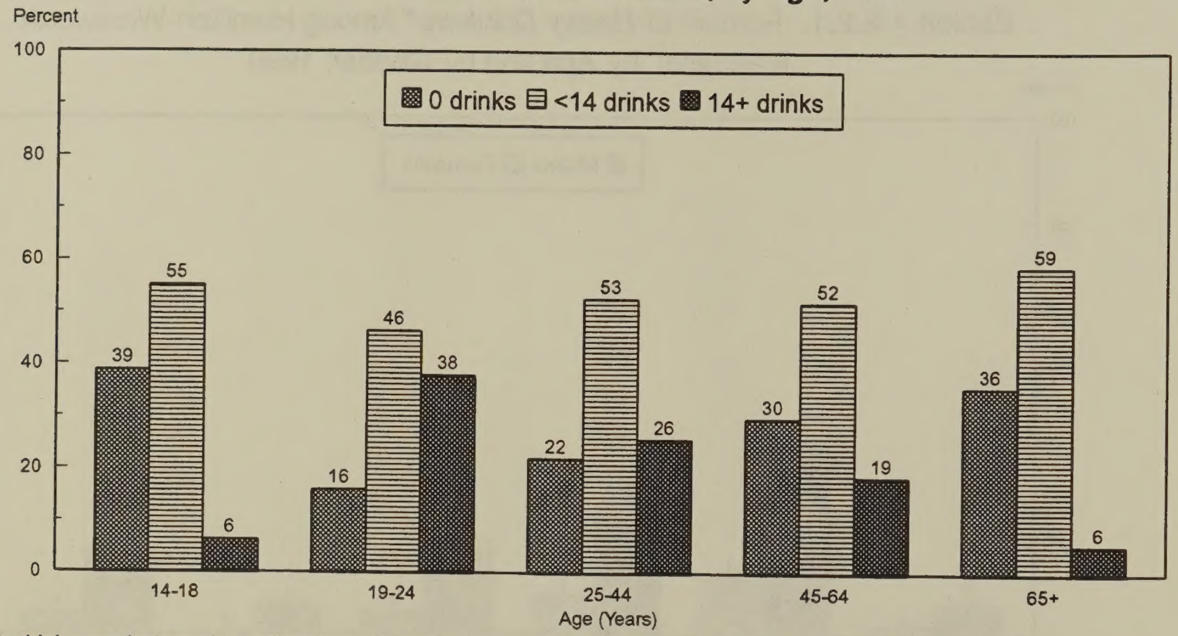
*Heavy drinker = consumption of 14 or more alcoholic drinks** in the past 7 days.
**Alcoholic drink = equivalent of 1 bottle of beer (12 oz.), 1 glass of wine (4 - 5 oz.) or 1 small shot of liquor or spirits (1 - 1.5 oz.) with or without mix.

Exhibit 4.2.2.2. ***Age of Initiation of Drinking***, by ***Alcohol Consumption*** Within ***Past Week***, Hamilton-Wentworth, 1990



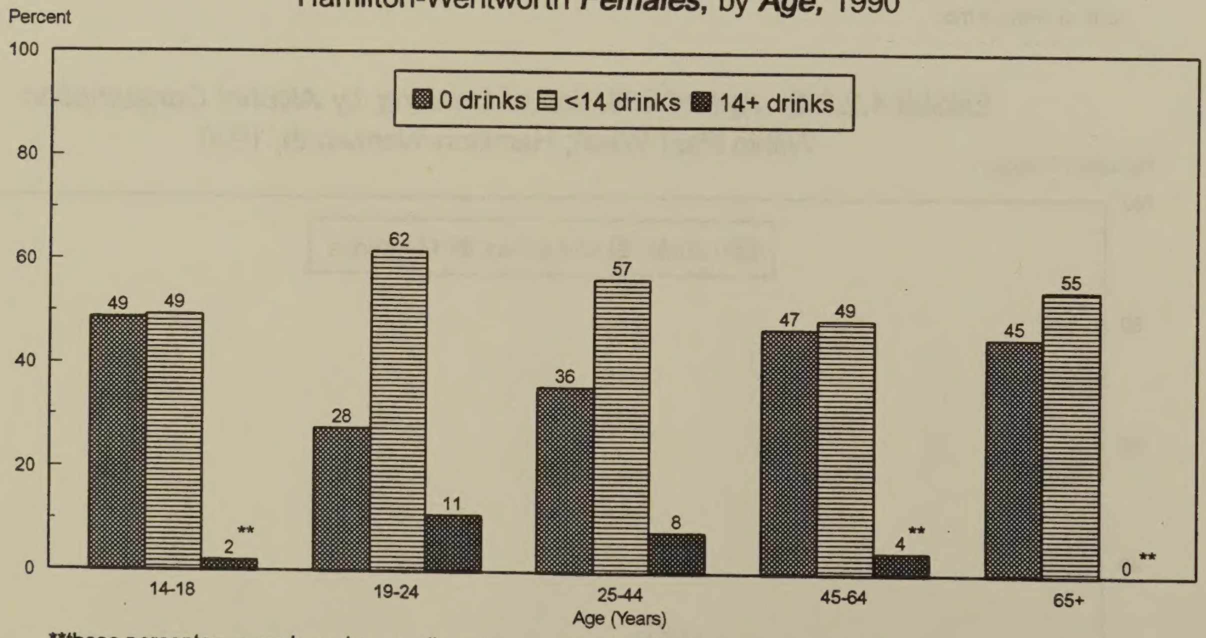
Source: Ontario Ministry of Health. 1990 Ontario Health Survey. 1992.

Exhibit 4.2.2.3. *Number* of *Alcoholic Drinks* Consumed Per Week* by Hamilton-Wentworth ***Males***, by ***Age***, 1990



*Alcoholic drink = equivalent of 1 bottle of beer (12 oz.), 1 glass of wine (4 - 5 oz.) or 1 small shot of liquor or spirits (1 - 1.5 oz.) with or without mix.

Exhibit 4.2.2.4. *Number of Alcoholic Drinks* Consumed Per Week* by Hamilton-Wentworth ***Females***, by ***Age***, 1990

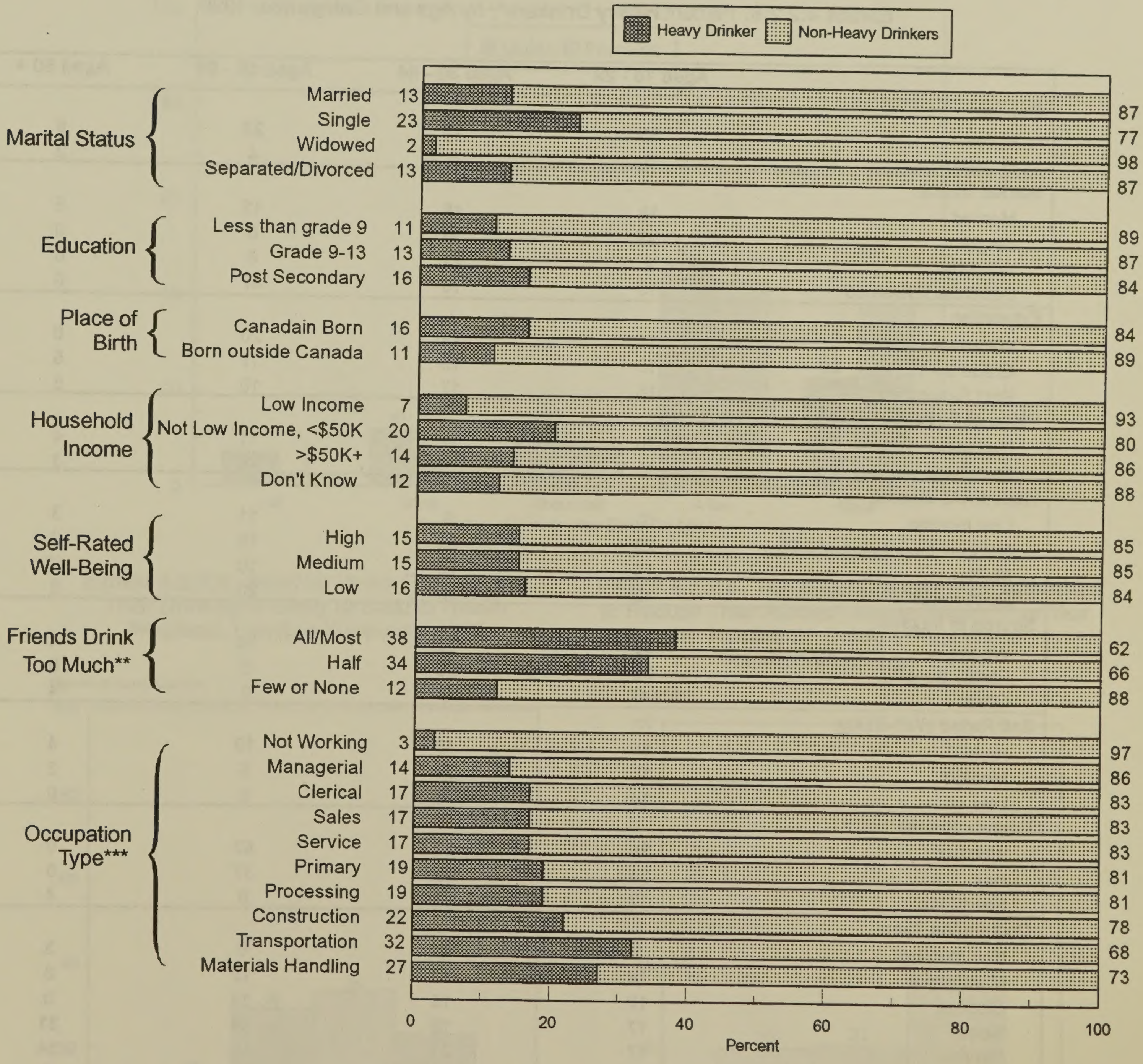


**these percentages are based on small numbers and should be interpreted cautiously.

Source: Ontario Ministry of Health. 1990 Ontario Health Survey. 1992.

Note: See also *Infowatch* **Hamilton-Wentworth On the Rocks?** in Section 6.1.

Exhibit 4.2.2.5. ***Characteristics** of **Heavy Drinkers*** versus **Non-Heavy Drinkers** in* Hamilton-Wentworth, 1990



* Heavy drinkers= consumed 14 or more alcoholic drinks (refer to Exhibit 4.2.2.3 note) in the past 7 days.

** Friends drink too much = in response to "How many of your friends would you say drink too much?" All/Most = all; most = about half; few or none = a few or none.

*** Occupation Type = Refer to definitions in Exhibit 1.1.

Source: Ontario Ministry of Health. 1990 Ontario Health Survey, 1992.

Exhibit 4.2.2.6. Percent **Heavy Drinkers***, by ***Age*** and ***Categories***, 1990

	Aged 18 - 29	Aged 30 - 44	Aged 45 - 59	Aged 60 +
Gender				
Males	23	24	22	6
Females	6	8	4	2
Marital Status				
Married	13	15	12	5
Single	23	36	0	0
Widowed	2	21	0	0
Separated/Divorced	13	10	47	0
Education				
<Grade 9	11	17	20	0
Grade 9 - 13	13	15	17	5
Post Secondary	16	17	10	5
Place of Birth				
Canadian	16	17	11	4
Immigrant	11	14	19	3
Household Income				
Low Income	7	9	11	3
Not Low Income but <$50K	20	23	19	2
$50K +	14	13	10	12
Don't Know	12	10	20	0
Source of Income				
Wages	16	16	14	4
Family Benefits	12	18	0	0
Other	4	0	0	4
Self Rated Well-Being				
High	15	13	19	4
Medium	15	28	6	3
Low	16	19	9	0
Friends Smoke				
All/Most	38	38	53	0
Half	34	32	37	0
Few/None	12	14	9	4
Occupation Type				
Not Working	3	0	0	3
Managerial	14	17	12	0
Clerical	17	15	16	0
Sales	17	12	14	31
Service	17	21	14	34
Primary	19	0	0	0
Process	19	16	9	14
Construction	22	19	31	0
Transport	32	36	32	0
Materials Handling	27	16	43	0

* Heavy Drinkers = consuming 14+ alcoholic drinks in past week.

Exhibit 4.2.2.7. ***Proportion*** of ***Friends*** Who ***Drink Too Much*** as ***Reported by Teenagers*** (14-19 years), by ***Gender,*** Hamilton-Wentworth, 1990

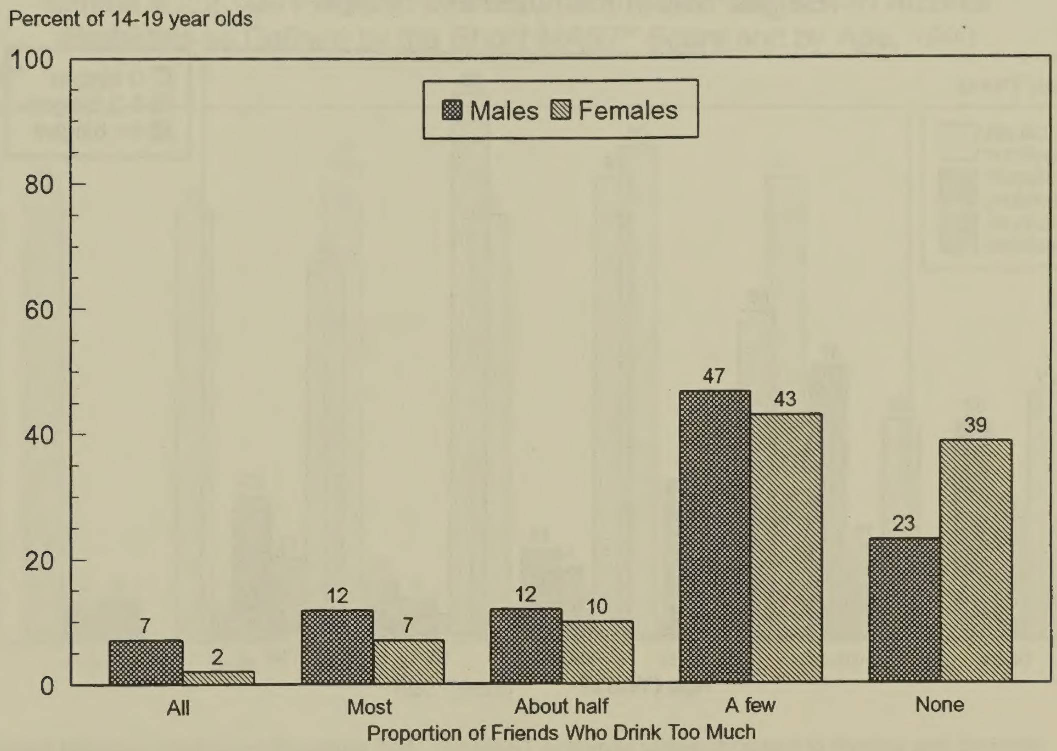
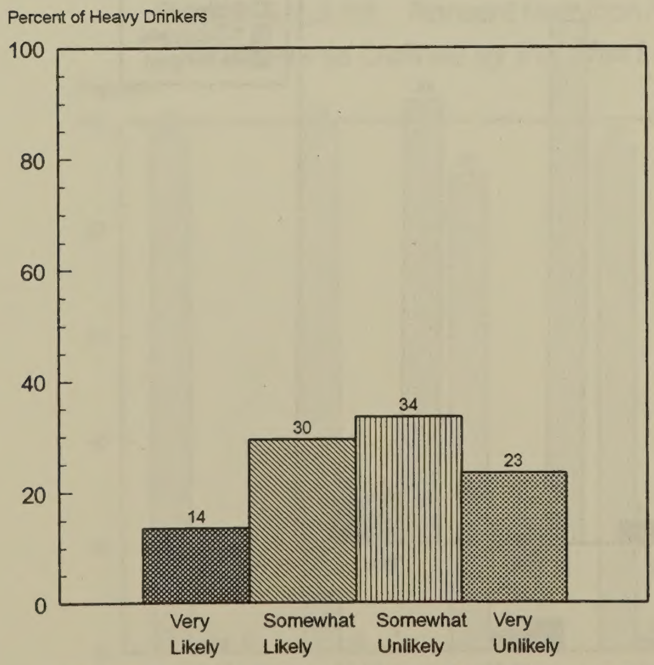
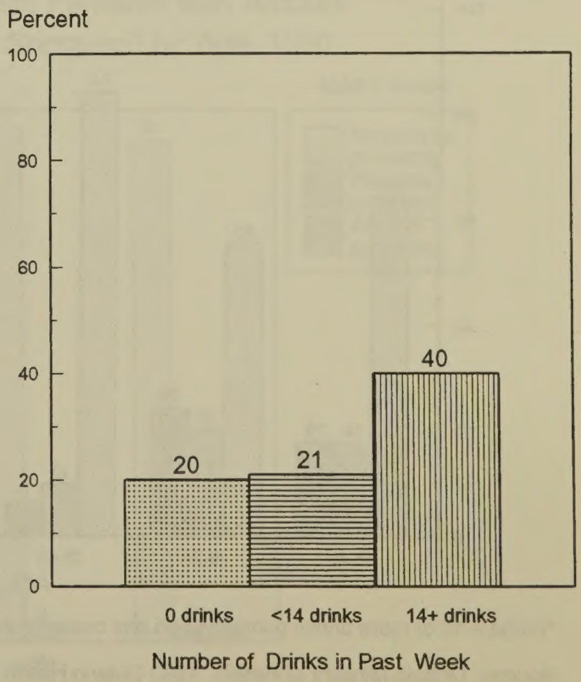


Exhibit 4.2.2.8. Belief by *Heavy Drinkers* That Their ***Drinking*** is ***Likely to Lead to Health Problems,*** Hamilton-Wentworth, 1990



Perceived likelihood that their drinking will lead to health problems

Exhibit 4.2.2.9. Percent of ***Drinkers Who Attempted to Reduce Their Alcohol Consumption*** in Past Year, by ***Number of Drinks*** in Past Week, Hamilton-Wentworth, 1990



Source: Ontario Ministry of Health. 1990 Ontario Health Survey, 1992.

Exhibit 4.2.2.10. ***Percent*** of Hamilton-Wentworth ***Males***, by ***Drinking Binges**** Within ***Past Year*** and by ***Age***, 1990

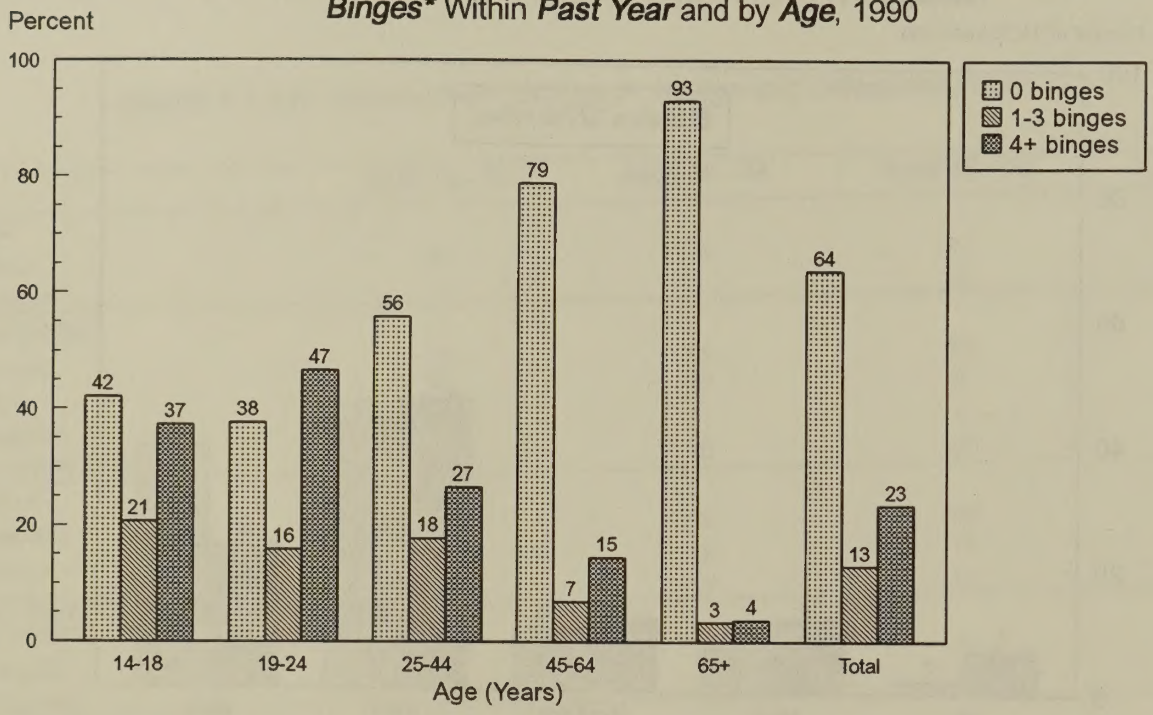
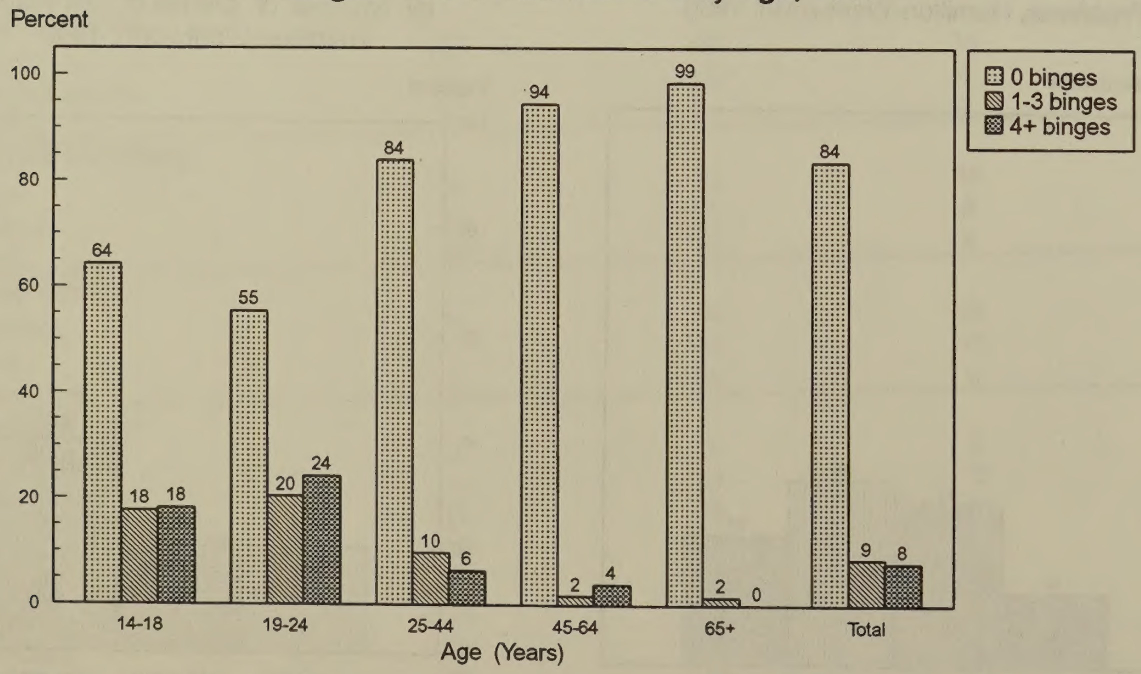


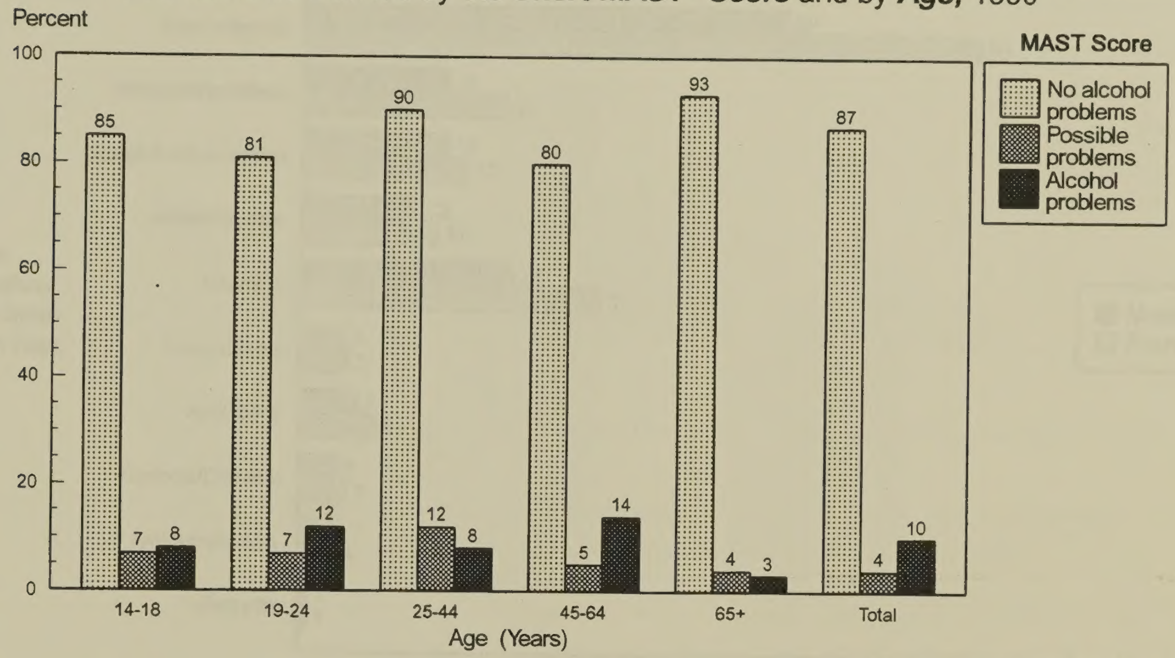
Exhibit 4.2.2.11. ***Percent*** of Hamilton-Wentworth ***Females***, by ***Drinking Binges**** Within ***Past Year*** and by ***Age***, 1990



*Binge = 10 or more drinks consumed on one occasion in past year.

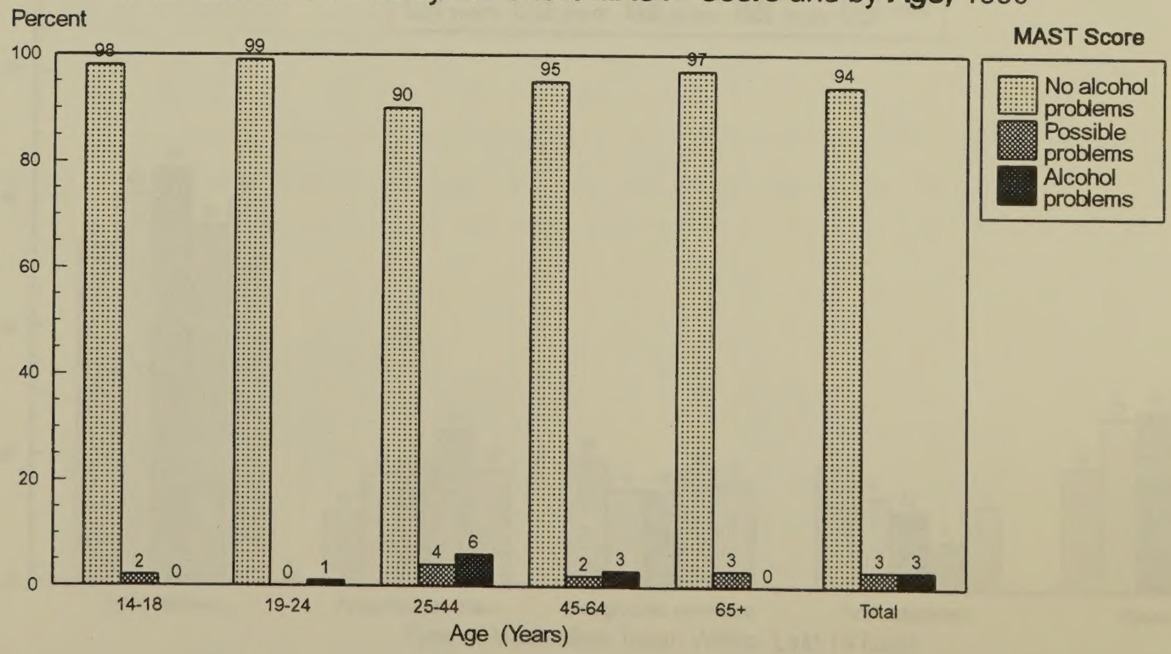
Source: Ontario Ministry of Health. 1990 Ontario Health Survey, 1992.

Exhibit 4.2.2.12. ***Percent*** of Hamilton-Wentworth ***Males with Alcohol Problems*** as Defined by the ***Short MAST* Score*** and by ***Age,*** 1990



* MAST = Short Michigan Alcoholism Screening Test. The MAST examines problems related to drinking and generally categorizes individuals as alcoholic, possibly alcoholic, and non-alcoholic. The OHS collapsed alcoholic and possibly alcoholic to reveal those respondents with problems related to alcohol. Respondents were asked 14 questions, and for each alcoholism-indicating response, a score of 1 was assigned. "Not a problem" = score of 0 or 1; "Possible problems" = score 2; "Alcohol problems" = score 3 or more.

Exhibit 4.2.2.13. ***Percent*** Hamilton-Wentworth ***Females with Alcohol Problems*** as Defined by the ***Short MAST* Score*** and by ***Age,*** 1990



Source: Ontario Ministry of Health. 1990 Ontario Health Survey, 1992.

4.2.3. Drug Use

Exhibit 4.2.3.1. ***Percent*** of Hamilton-Wentworth ***Residents Who Reported Medication Use*** Within the ***Past 14 Days***, by ***Medication Type*** and by ***Gender,*** 1990

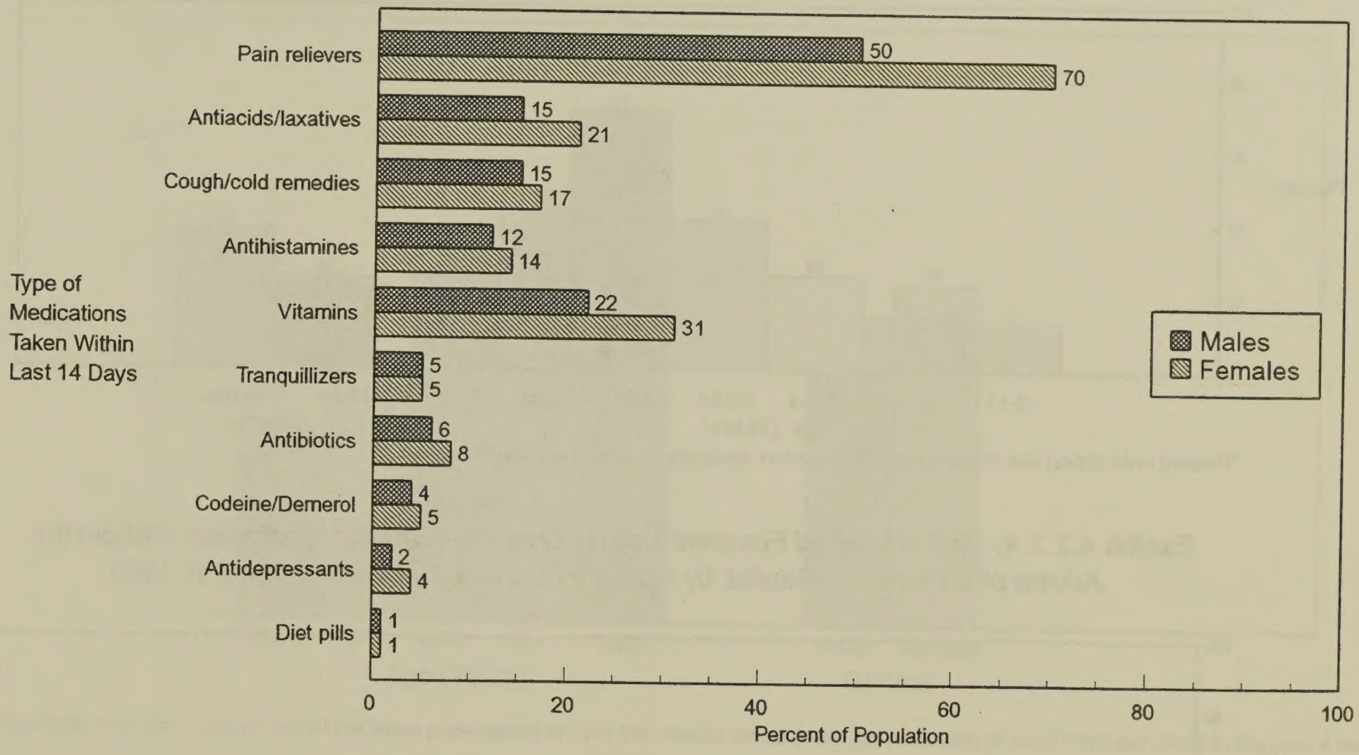
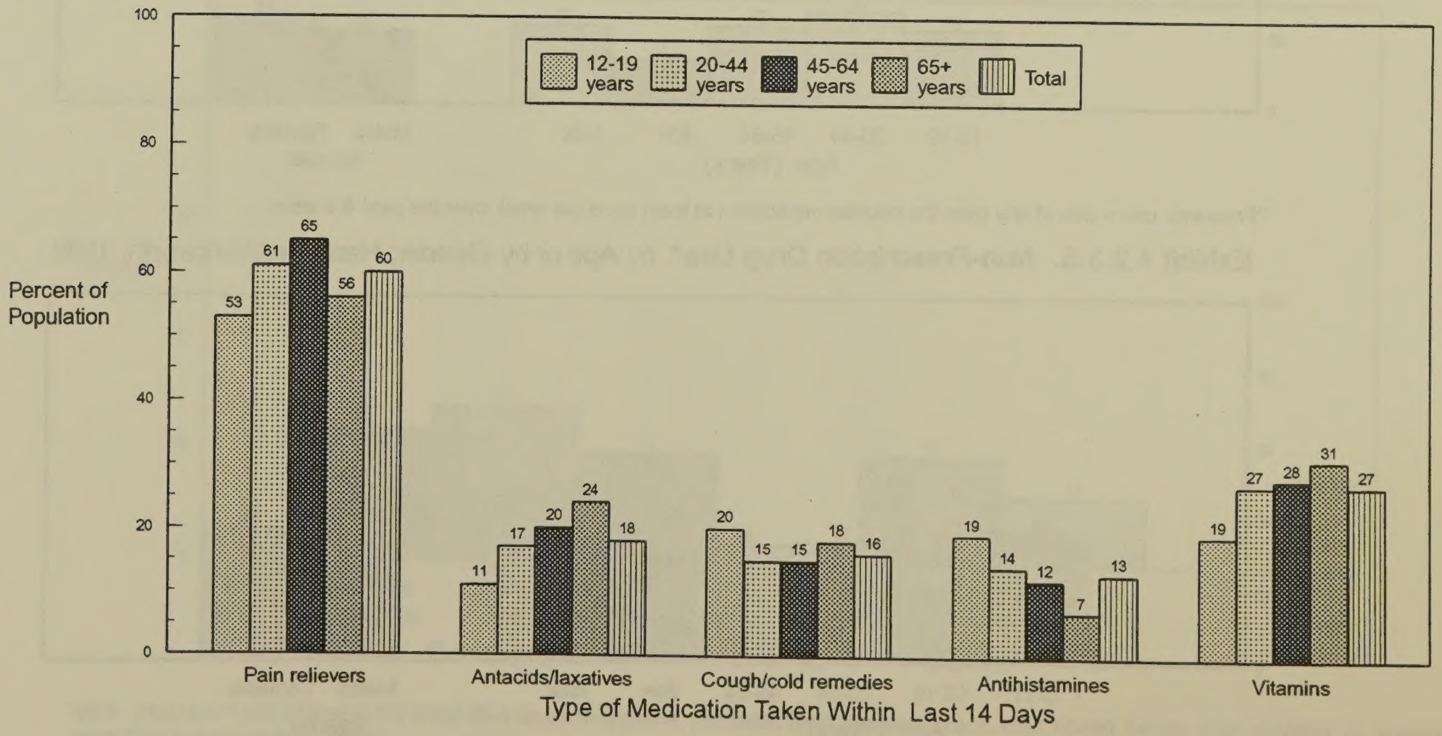


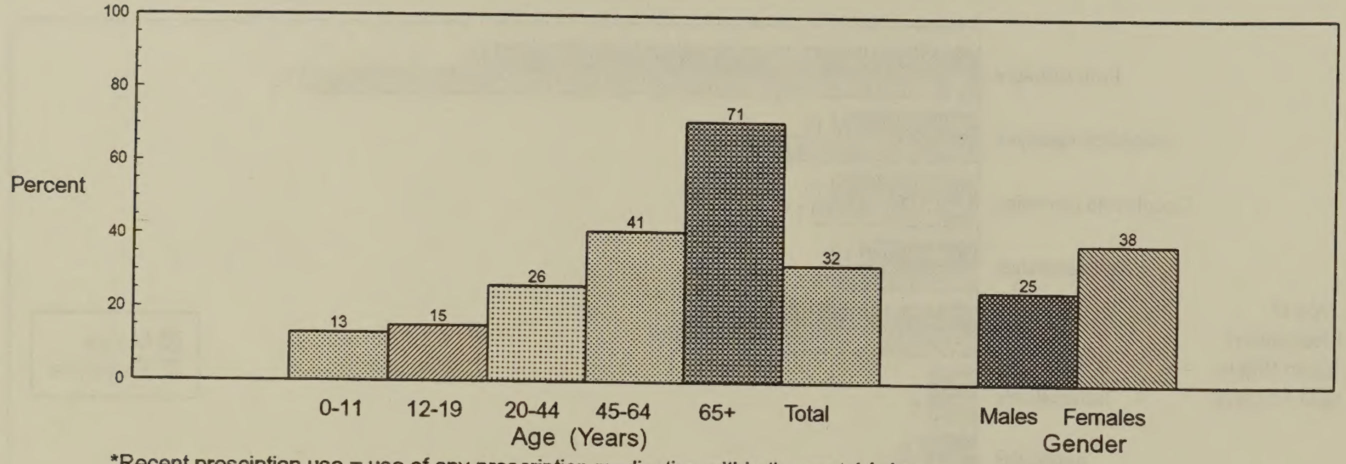
Exhibit 4.2.3.2. ***Percent*** of Hamilton-Wentworth ***Residents Who Reported Medication Use*** Within the ***Past 14 Days***, by ***Medication Type*** and by ***Age,*** 1990



Source: Ontario Ministry of Health, 1990 Ontario Health Survey, 1992.

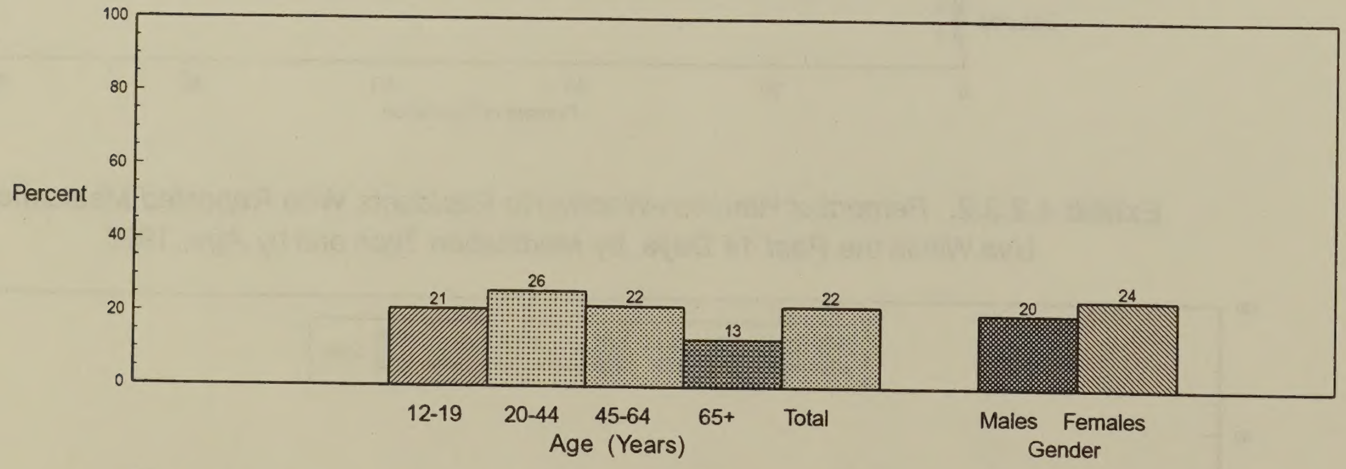
Note: See also **Exhibits 5.7.1 through 5.7.5** for data on Clients Undergoing Substance Abuse Treatment.

Exhibit 4.2.3.3. ***Self-Reported*** Recent ***Prescription Use****, by ***Age*** or by ***Gender,*** Hamilton-Wentworth, 1990



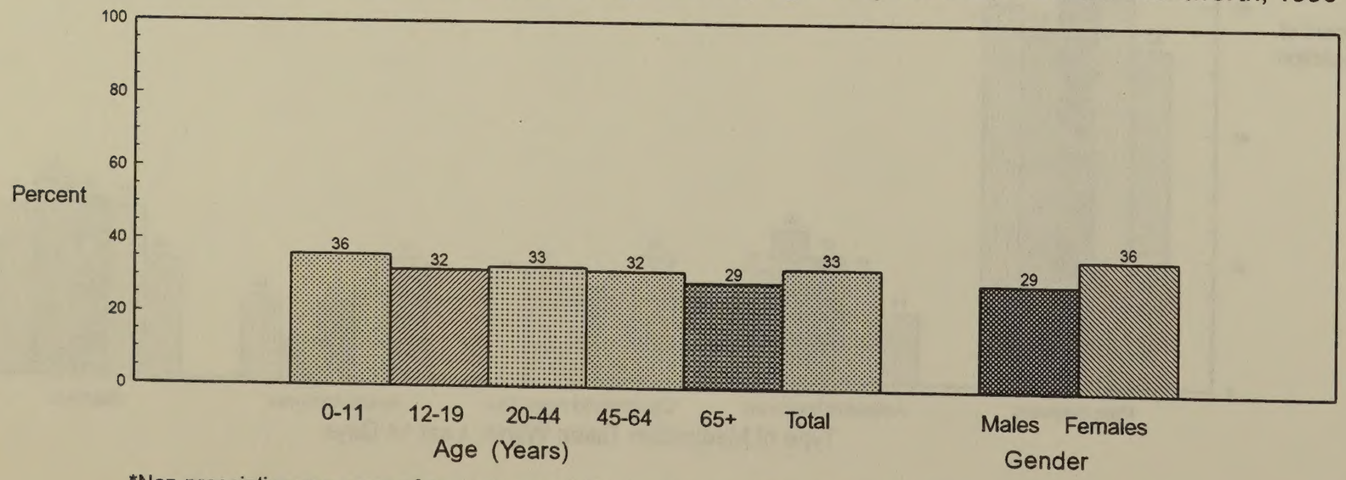
*Recent presciption use = use of any prescription medication within the past **14 days**.

Exhibit 4.2.3.4. ***Self-Reported Frequent Use**** of ***Over-the-Counter Medication Without*** the ***Advice of a Doctor or Dentist***, by ***Age*** or by ***Gender***, Hamilton-Wentworth, 1990



*Frequent use = use of any over-the-counter medication at least once per week over the past **4 weeks**.

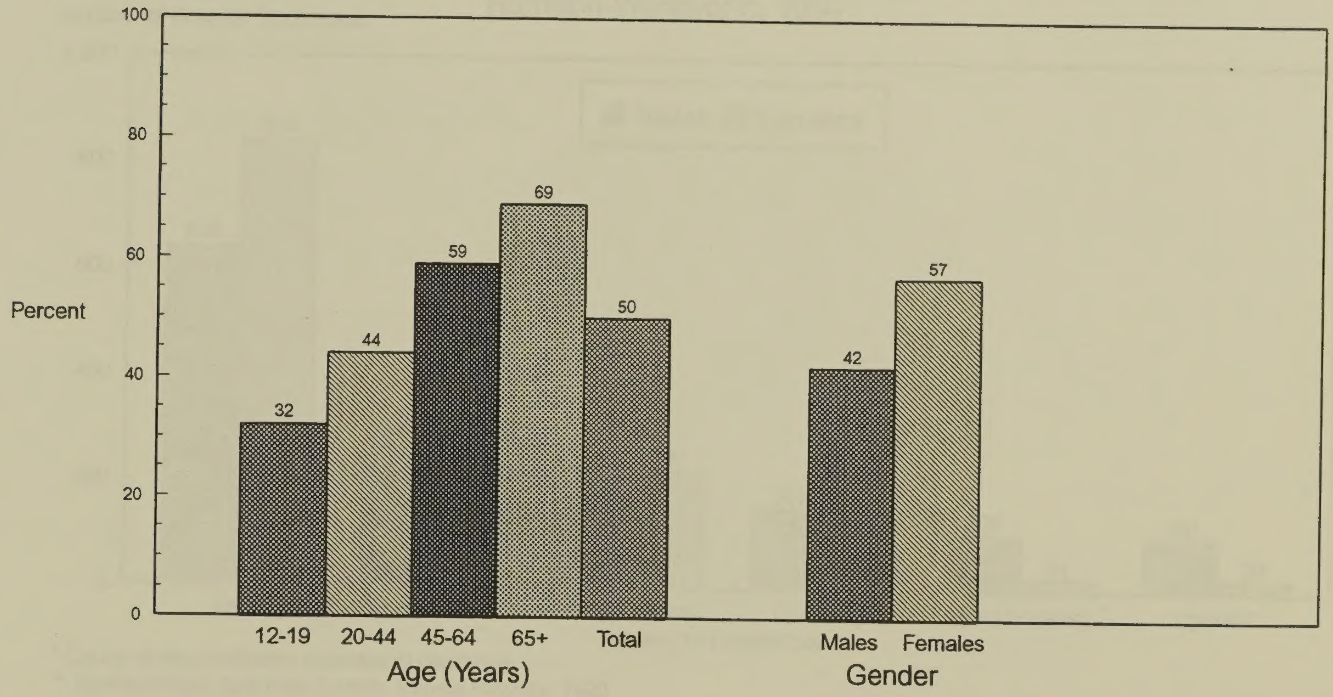
Exhibit 4.2.3.5. ***Non-Prescription Drug Use****, by ***Age*** or by ***Gender,*** Hamilton-Wentworth, 1990



*Non-presciption use = use of any non-prescription medication within the past **14 days**.

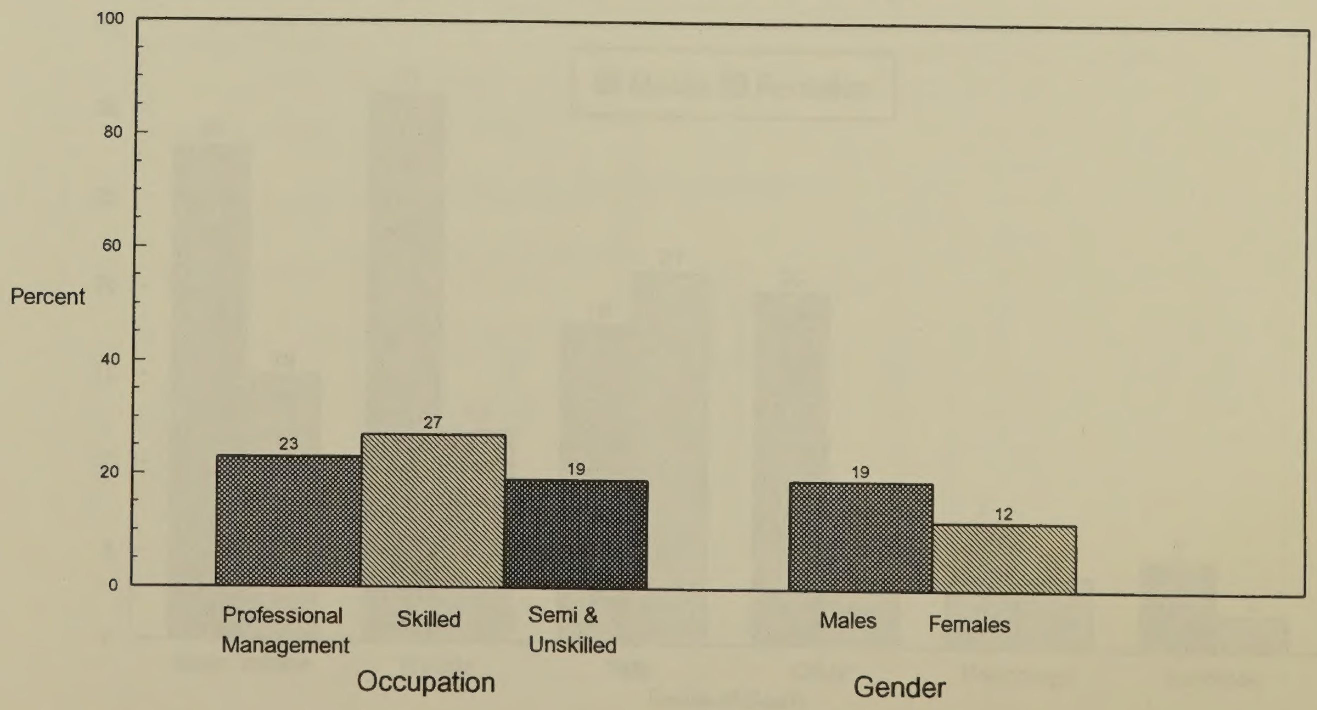
Source: Ontario Ministry of Health, 1990 Ontario Health Survey, 1992.

Exhibit 4.2.3.6. ***Percent*** of Hamilton-Wentworth ***Residents Who Report Frequent Medication Use****, by ***Age*** or by ***Gender***, 1990



* Frequent drug use = use of any of the listed prescription or over the counter drugs (vitamins excluded) at least once per week in the past 4 weeks.

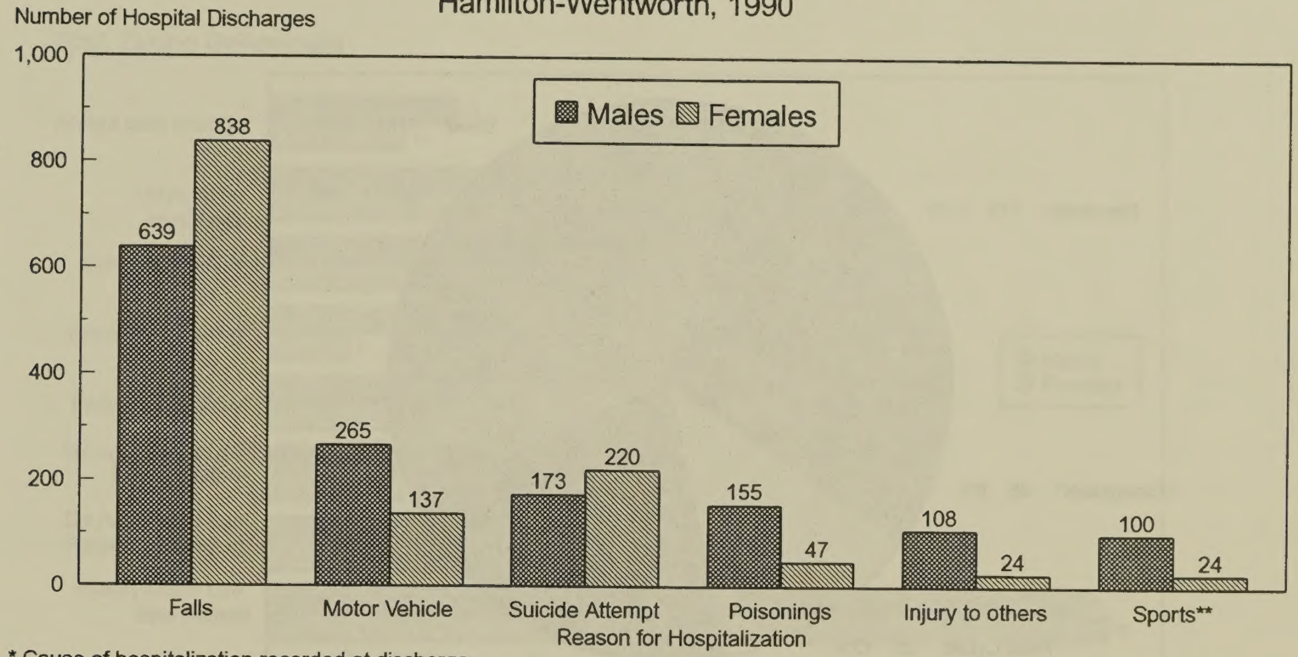
Exhibit 4.2.3.7. ***Percent*** of Hamilton-Wentworth ***Residents Who Report Illicit Drug Use****, by ***Occupation*** or by ***Gender***, 1990



*Illicit drug use = use of any of the listed illicit drugs (marijuana, cannabis, hash, cocaine, crack, LSD, speed, heroin, glue, solvents, or gasoline) more than 5 times in their lifetime.

Source: Ontario Ministry of Health, 1990 Ontario Health Survey, 1992.

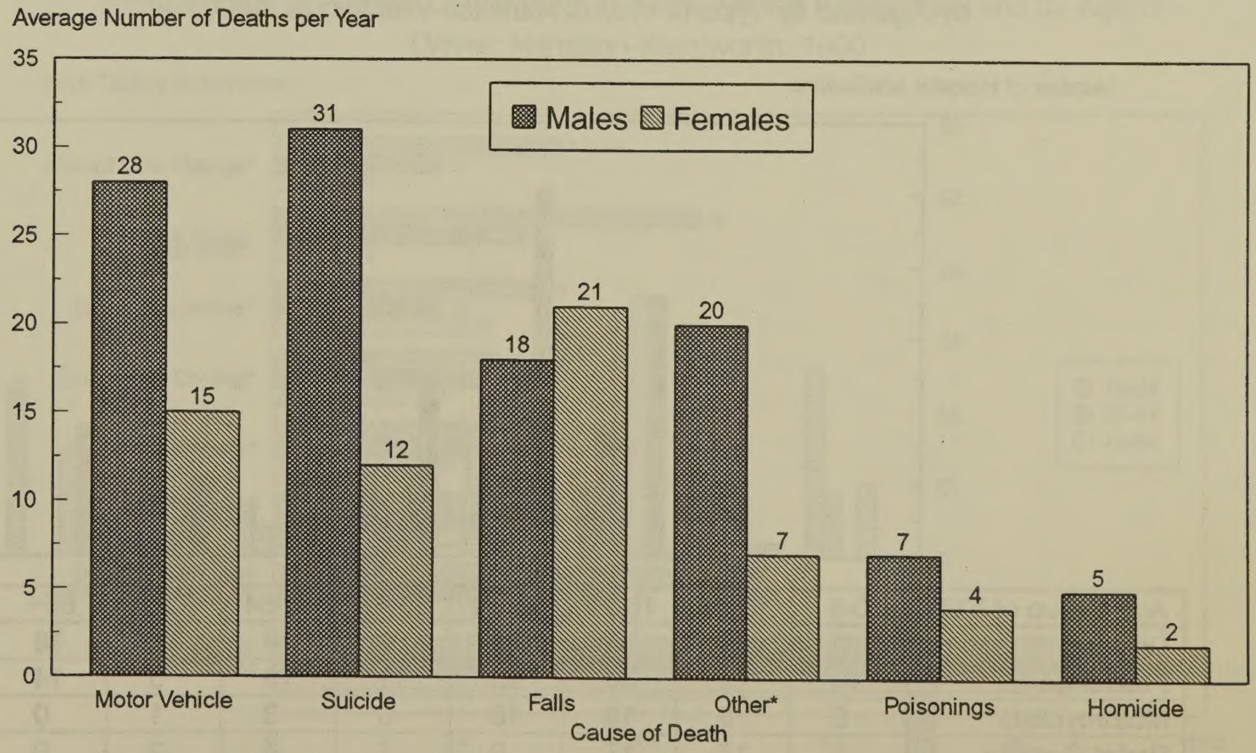
Exhibit 4.2.4.1. ***Hospitalizations**** Due to ***Injury***, by ***Cause*** and by ***Gender***, Hamilton-Wentworth, 1990



* Cause of hospitalization recorded at discharge

** Sports-related data from Ontario Trauma Registry, 1990

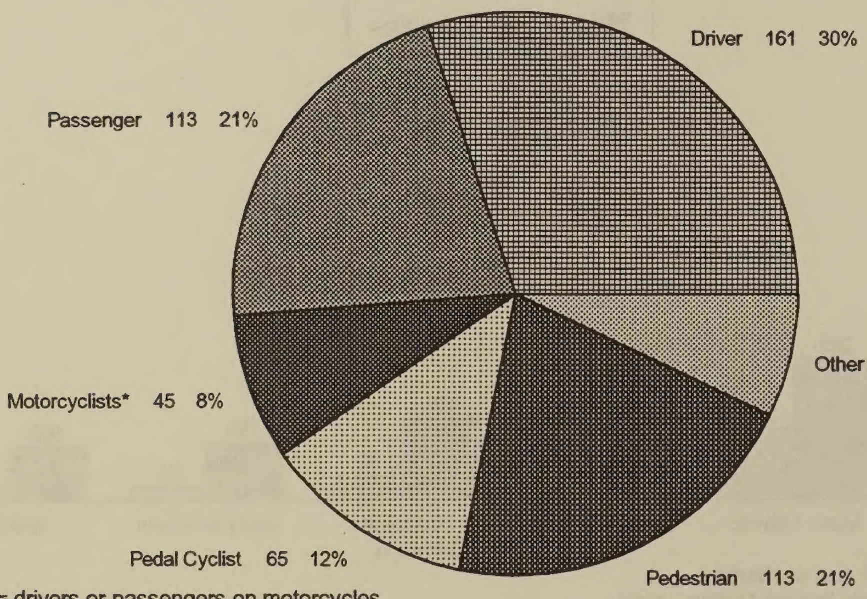
Exhibit 4.2.4.2. ***Average*** Number of ***Injury Deaths*** per Year for the Period 1986-1990, by ***Cause*** and by ***Gender,*** Hamilton-Wetnworth



*"Other" includes injury from cutting/piercing, struck by object/person, overexertion, by machinery, hot substance, or explosion.

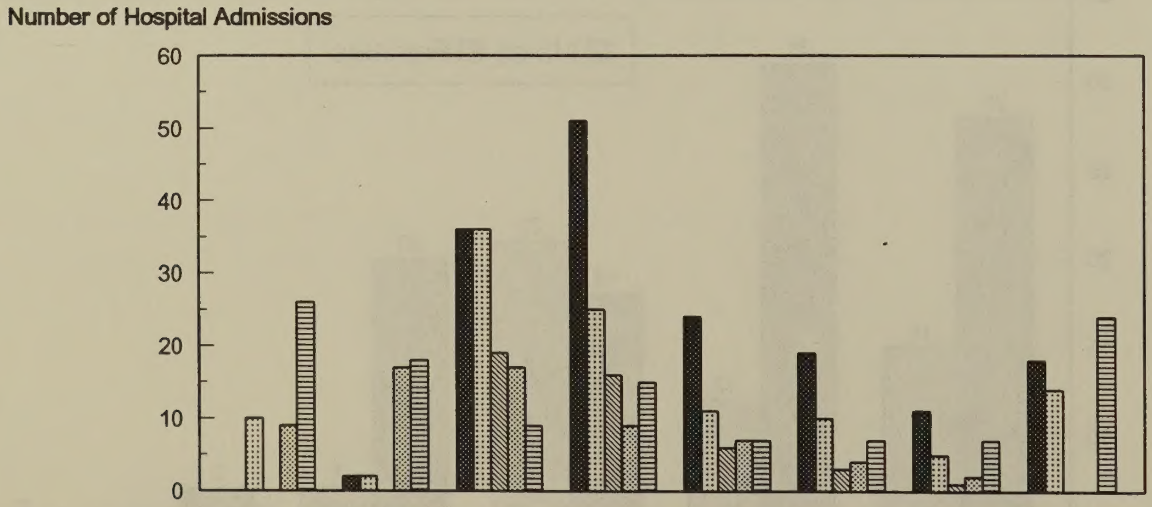
Source: Ontario Ministry of Health, 1986-1990 Morbidity and Mortality Report, 1992.

Exhibit 4.2.4.3. ***Number*** **and** ***Percent*** **of** ***Hospital Admissions*** **Due to** ***Injury From Motor Vehicle Collisions***, **by** ***Type of Victim***, **Hamilton-Wentworth, 1990**



*Motorcyclists = drivers or passengers on motorcycles

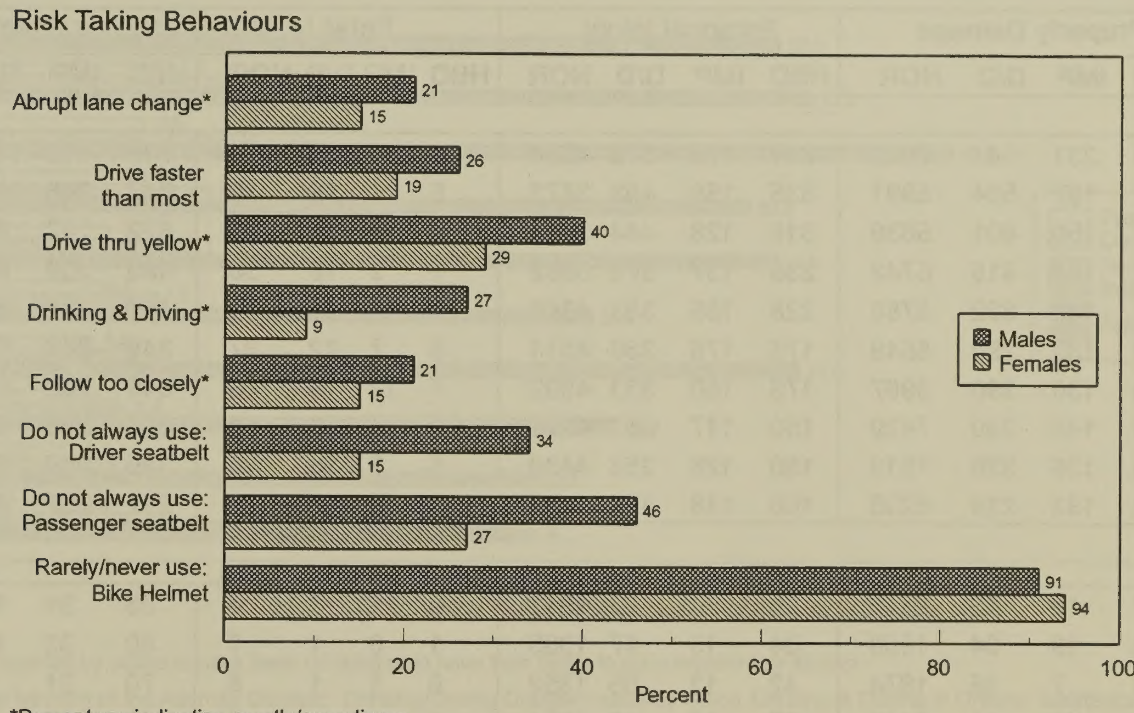
Exhibit 4.2.4.4. ***Number*** **of** ***Hospital Admissions*** **For** ***Injury from Motor Vehicle Collision,*** **by** ***Age*** **and by** ***Type*** **of Victim, Hamilton-Wentworth, 1990**



Age Group of Victim	0-9	10-15	16-24	25-34	35-44	45-54	55-64	65+
Drivers ■	0	2	36	51	24	19	11	18
Passengers ▦	10	2	36	25	11	10	5	14
Motorcyclists* ▧	0	0	19	16	6	3	1	0
Pedal Cyclists ▩	9	17	17	9	7	4	2	0
Pedestrians ▤	26	18	9	15	7	7	7	24

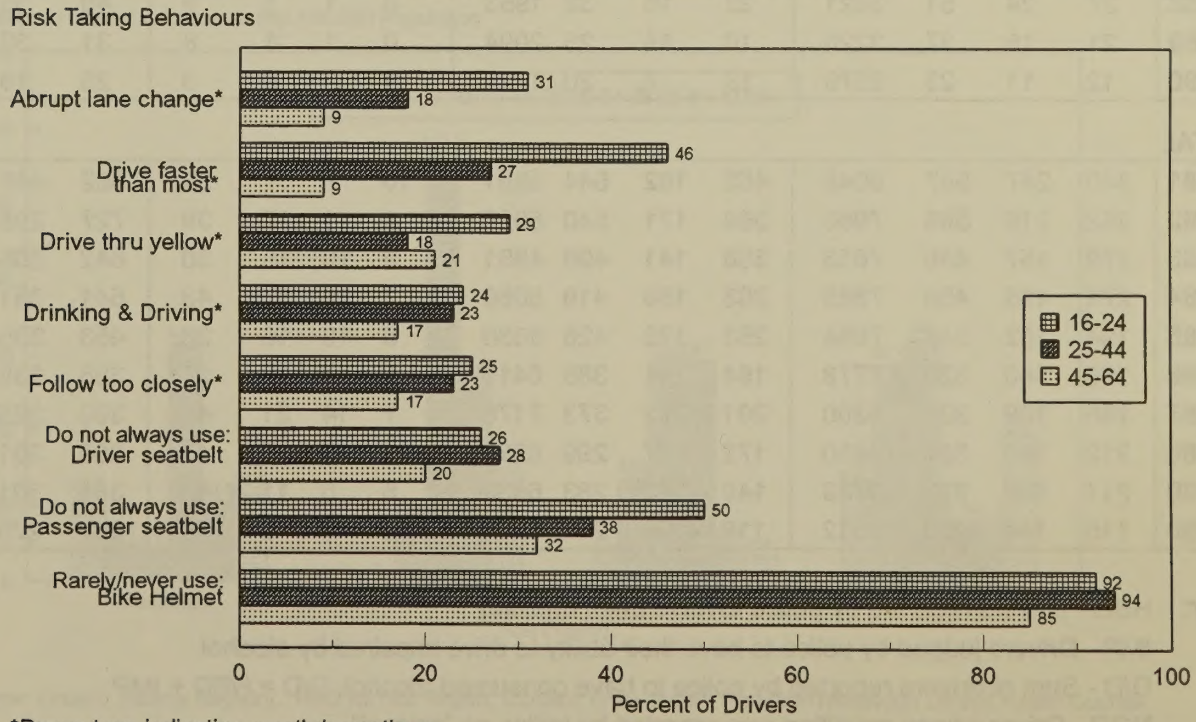
Source: 1990 Ontario Trauma Registry Ad Hoc Report; Contact: Ernie Jodoin, Hamilton-Wentworth District Health Council.

Exhibit 4.2.4.5. Percent of ***Male*** and ***Female Drivers,*** by ***Risk-Taking Behaviours,*** Hamilton-Wentworth, 1990



*Percentage indicating mostly/sometimes

Exhibit 4.2.4.6. Percent of ***Drivers***, by ***Risk-Taking Behaviours*** and by ***Age*** of ***Driver***, Hamilton-Wentworth, 1990



*Percentage indicating mostly/sometimes

Source: Ontario Ministry of Health, 1990 Ontario Health Survey, 1992

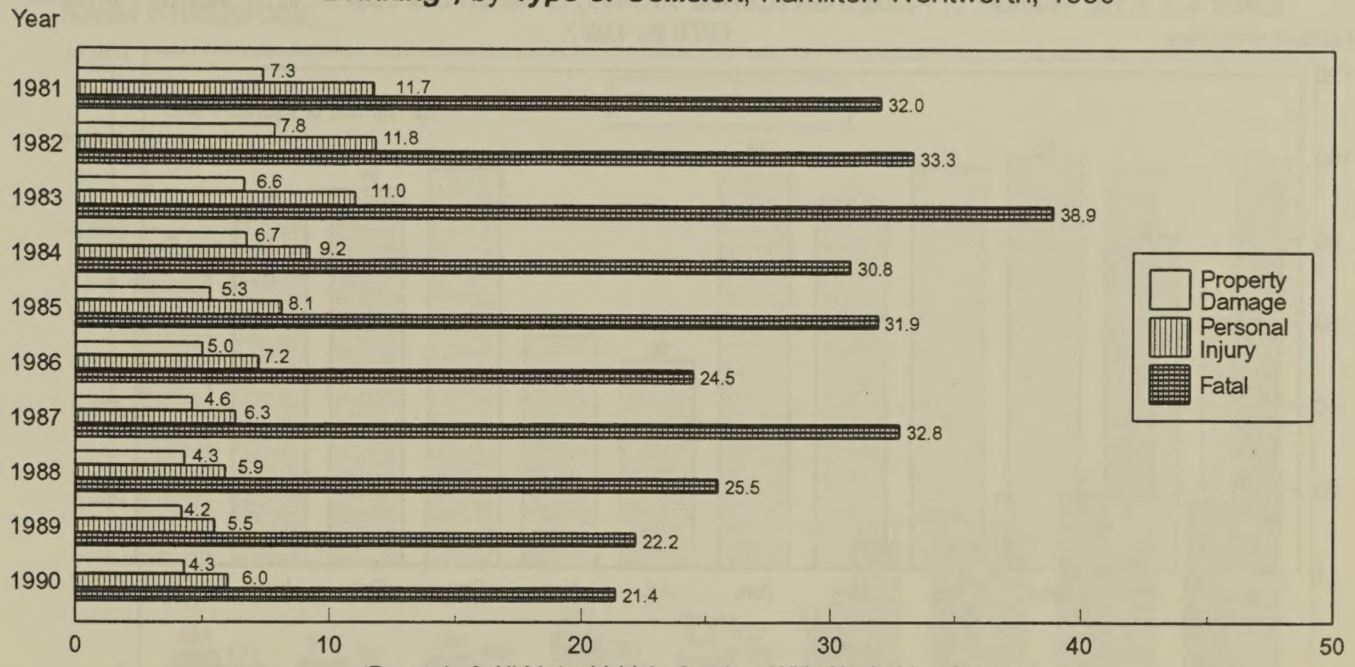
Exhibit 4.2.4.7. Number of Drivers Involved in Motor Vehicle Collisions, by Alcohol Status of Driver, Hamilton-Wentworth, 1981-1990

Year &	Property Damage				Personal Injury				Fatal				Total			
Sex	HBD	IMP	D/D	NOR	HBD	IMP	D/D	NOR	HBD	IMP	D/D	NOR	HBD	IMP	D/D	NOR
MALE																
1981	313	231	544	6902	394	178	572	4334	10	6	16	34	717	415	1132	11270
1982	307	197	504	5991	335	158	493	3673	5	11	16	32	647	366	1013	9696
1983	251	150	401	5639	316	128	444	3609	5	9	14	22	572	287	859	9270
1984	252	163	415	5742	236	137	373	3682	7	9	16	36	495	309	804	9460
1985	181	141	322	5788	228	155	383	4343	5	10	15	32	414	306	720	10163
1986	160	130	290	5549	175	175	350	4511	5	7	12	37	340	312	652	10097
1987	160	130	290	5967	173	160	333	4992	7	12	19	39	340	302	642	10998
1988	185	145	330	7429	150	117	267	4271	9	4	13	38	344	266	610	11738
1989	190	136	326	7519	130	128	258	4439	5	5	10	35	325	269	594	11993
1990	103	133	236	5233	106	118	224	3527	3	6	9	33	212	257	469	8793
FEMALE																
1981	27	16	43	2146	58	14	72	1517	0	1	1	4	85	31	116	3667
1982	45	19	64	1969	34	13	47	1355	1	0	1	7	80	32	112	3331
1983	28	7	35	1974	42	13	55	1352	0	1	1	8	70	21	91	3334
1984	19	22	41	2143	27	19	46	1384	0	1	1	7	46	42	88	3534
1985	13	11	24	2206	25	18	43	1687	1	0	1	4	39	29	68	3897
1986	26	10	36	2229	19	16	35	1904	0	0	0	13	45	26	71	4146
1987	25	9	34	2333	28	12	40	2183	0	2	2	5	53	23	76	4521
1988	27	24	51	3021	22	10	32	1953	0	1	1	9	49	35	84	4983
1989	21	16	37	3220	10	15	25	2094	0	1	1	8	31	32	63	5322
1990	12	11	23	2279	13	7	20	1727	0	0	0	3	25	18	43	4009
TOTAL																
1981	340	247	587	9048	452	192	644	5851	10	7	17	38	802	446	1248	14937
1982	352	216	568	7960	369	171	540	5028	6	11	17	39	727	398	1125	13027
1983	279	157	436	7613	358	141	499	4961	5	10	15	30	642	308	950	12604
1984	271	185	456	7885	263	156	419	5066	7	10	17	43	541	351	892	12994
1985	194	152	346	7994	253	173	426	6030	6	10	16	36	453	335	788	14060
1986	186	140	326	7778	194	191	385	6415	5	7	12	50	385	338	723	14243
1987	185	139	324	8300	201	172	373	7175	7	14	21	44	393	325	718	15519
1988	212	169	381	10450	172	127	299	6224	9	5	14	47	393	301	694	16721
1989	211	152	363	10739	140	143	283	6533	5	6	11	43	356	301	657	17315
1990	115	144	259	7512	119	125	244	5254	3	6	9	36	237	275	512	12802

Key: HBD - Drivers reported by police to have been drinking
IMP - Drivers judged by police to have their ability to drive impaired by alcohol
D/D - Sum of drivers reported by police to have consumed alcohol; D/D = HBD + IMP
NOR - Driver whose condition was reported by police as "normal"

Source:Ontario Ministry of the Attorney General Drinking/Driving Countermeasures Office, Statistical Yearbook, 1990.

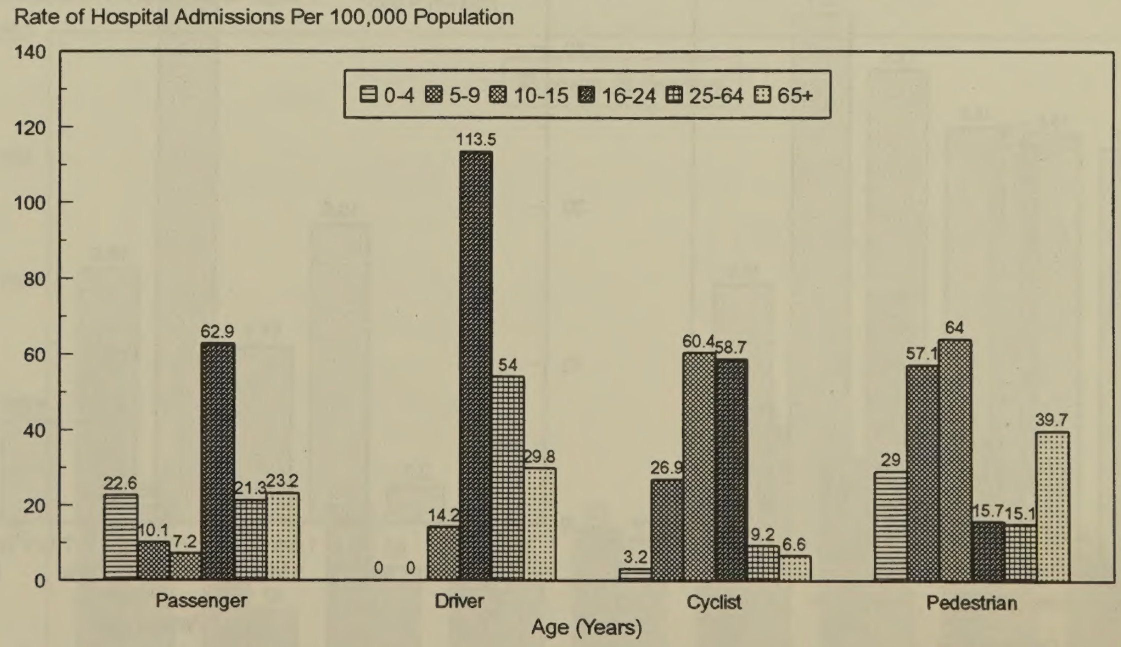
Exhibit 4.2.4.8. *Motor Vehicle Collision Involvement* of *Male Drivers* Who Had Been *Drinking**, by *Type of Collision*, Hamilton-Wentworth, 1990



* Drivers reported by police to have been drinking or to have their ability to drive impaired by alcohol

Source: Ontario Ministry of the Attorney General, Drinking/Driving Countermeasures Office, Drinking & Driving in Ontario: Statitistical Yearbook, 1990.

Exhibit 4.2.4.9. *Rate of Hospital Admissions* Per 100,000 Resulting From *Motor Vehicle Collisions*, by *Category of Victim*, and *Age*, Hamilton-Wentworth, 1990



Source: Ontario Trauma Registry. 1990 Ad Hoc Report; Contact: Ernie Jodoin, Hamilton-Wentworth District Health Council

Exhibit 4.2.4.10. Number of *Pedestrian Injuries* Involving *Children 5-9 Years* Old by *Month*, Hamilton, *1978 to 1991*

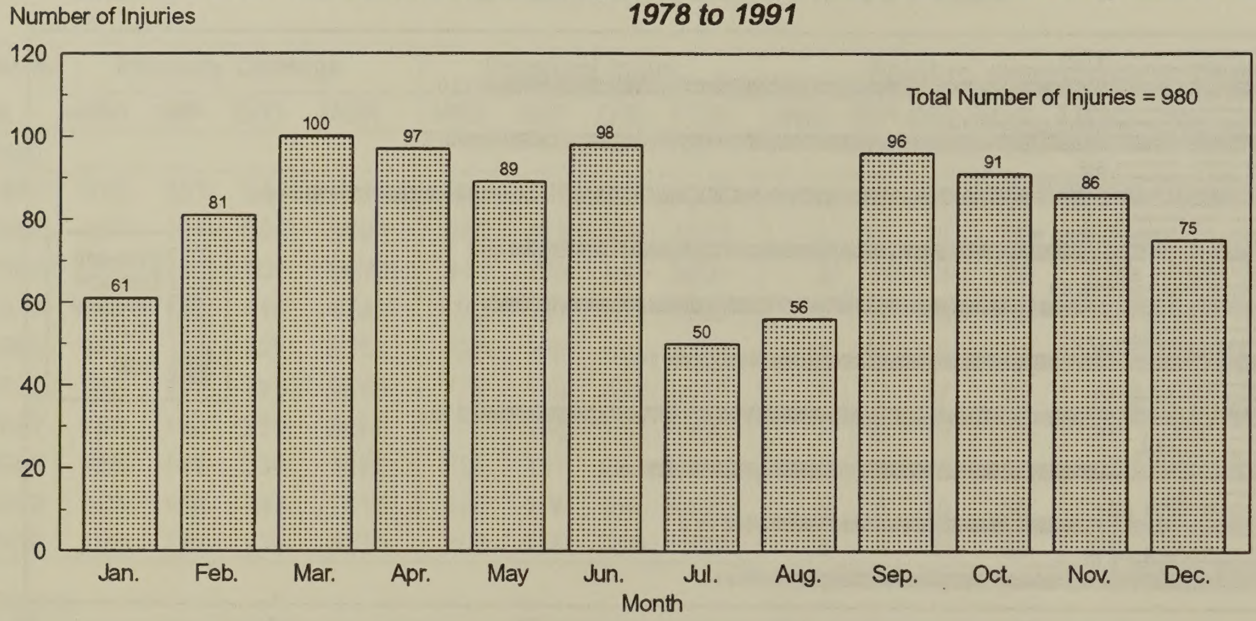


Exhibit 4.2.4.11. Percent of *Pedestrian Injuries* Involving Children 5 to 9 Years Old by *Day of Week*, Hamilton, *1978 to 1991*

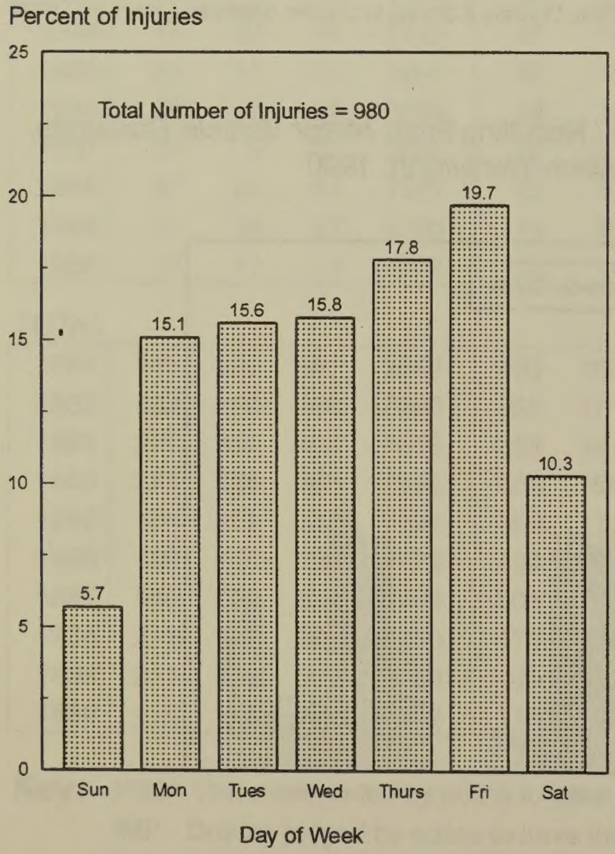
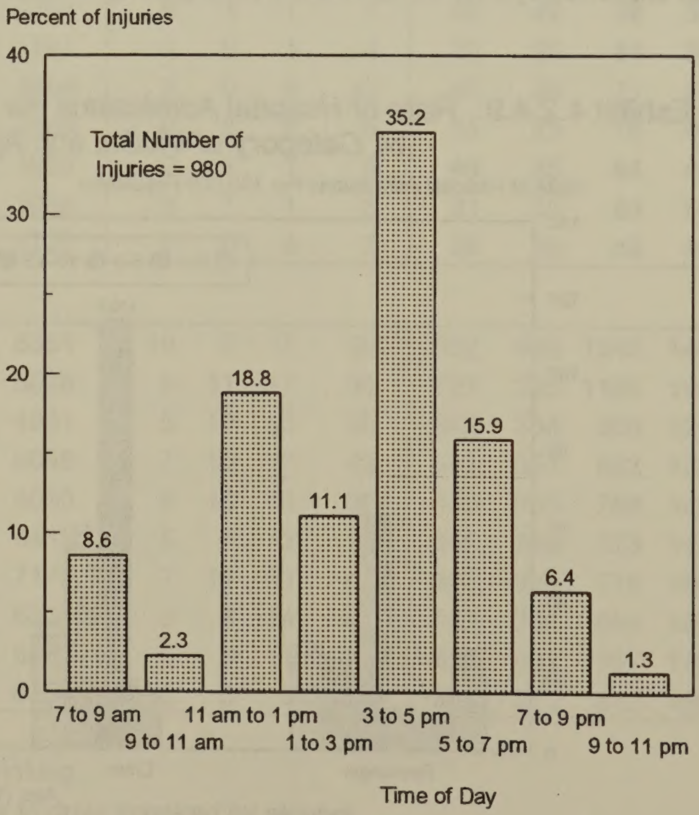


Exhibit 4.2.4.12. Percent of *Pedestrian Injuries* Involving Children 5 to 9 Years Old by *Time of Day,* Hamilton, *1978 to 1991*



Source: Hamilton-Wentworth Department of Public Health Services, Community Mobilization on Prevention of Child Pedestrian Injuries, Final Report, 1993.

Exhibit 4.2.4.13. ***Hospital Days Due To Falls***, by ***Age*** and by ***Gender***, Hamilton-Wentworth, 1990

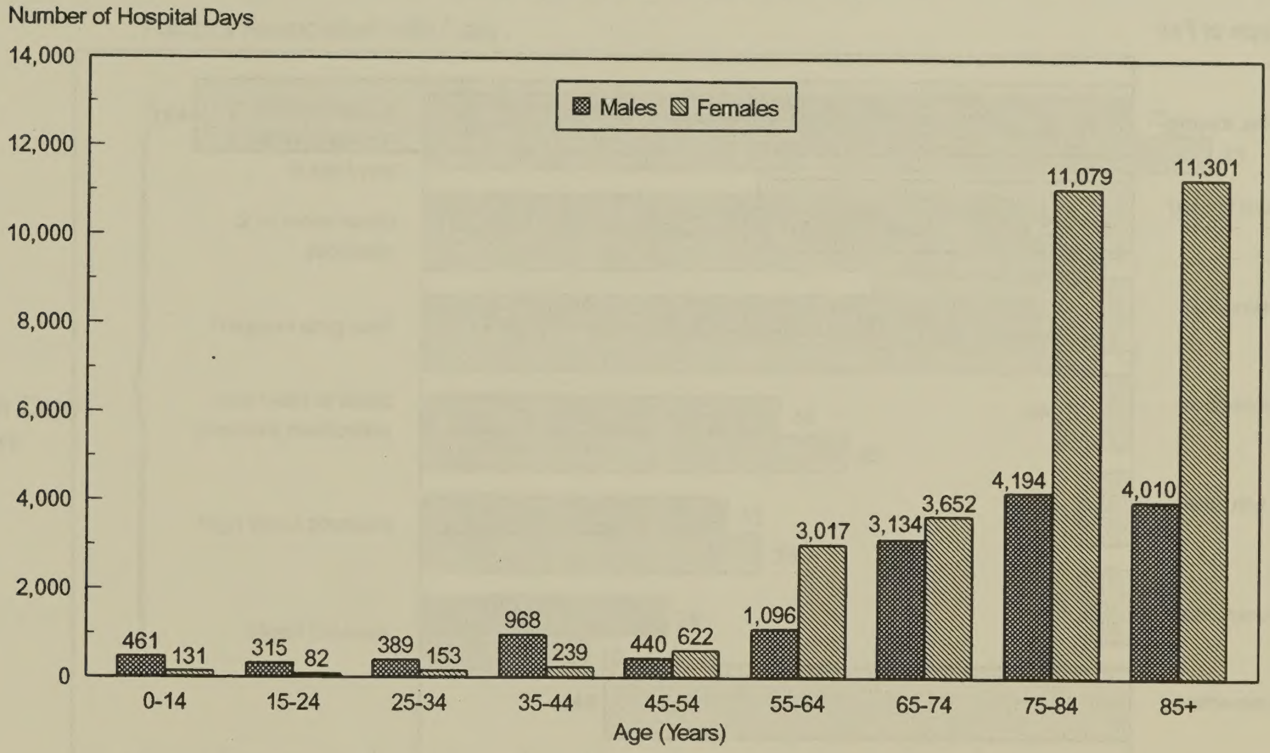
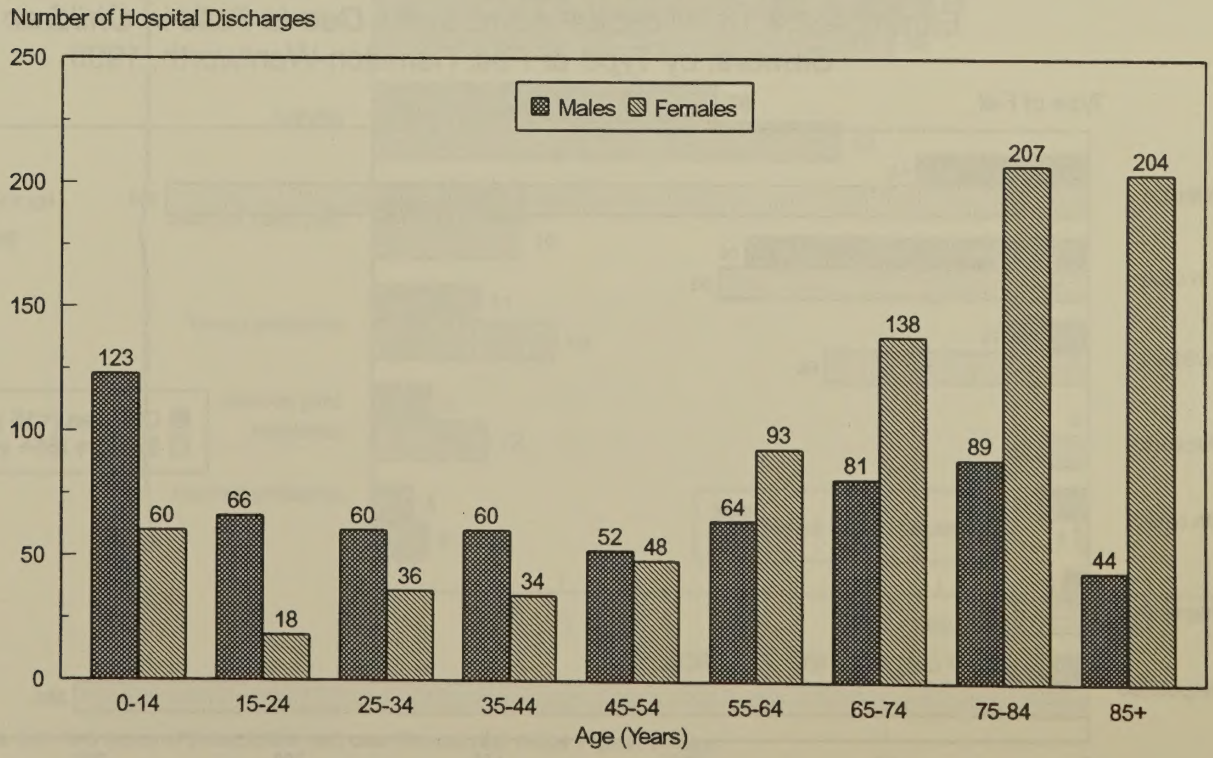


Exhibit 4.2.4.14. ***Hospital Discharges Due to Falls***, by ***Age*** and by ***Gender***, Hamilton-Wentworth, 1990



Source: Ontario Ministry of Health, 1986-1990 Morbidity and Mortality Report, 1992

Exhibit 4.2.4.15. ***Hospital Admissions Due to Falls***, by ***Type of Fall***, Hamilton-Wentworth, 1990

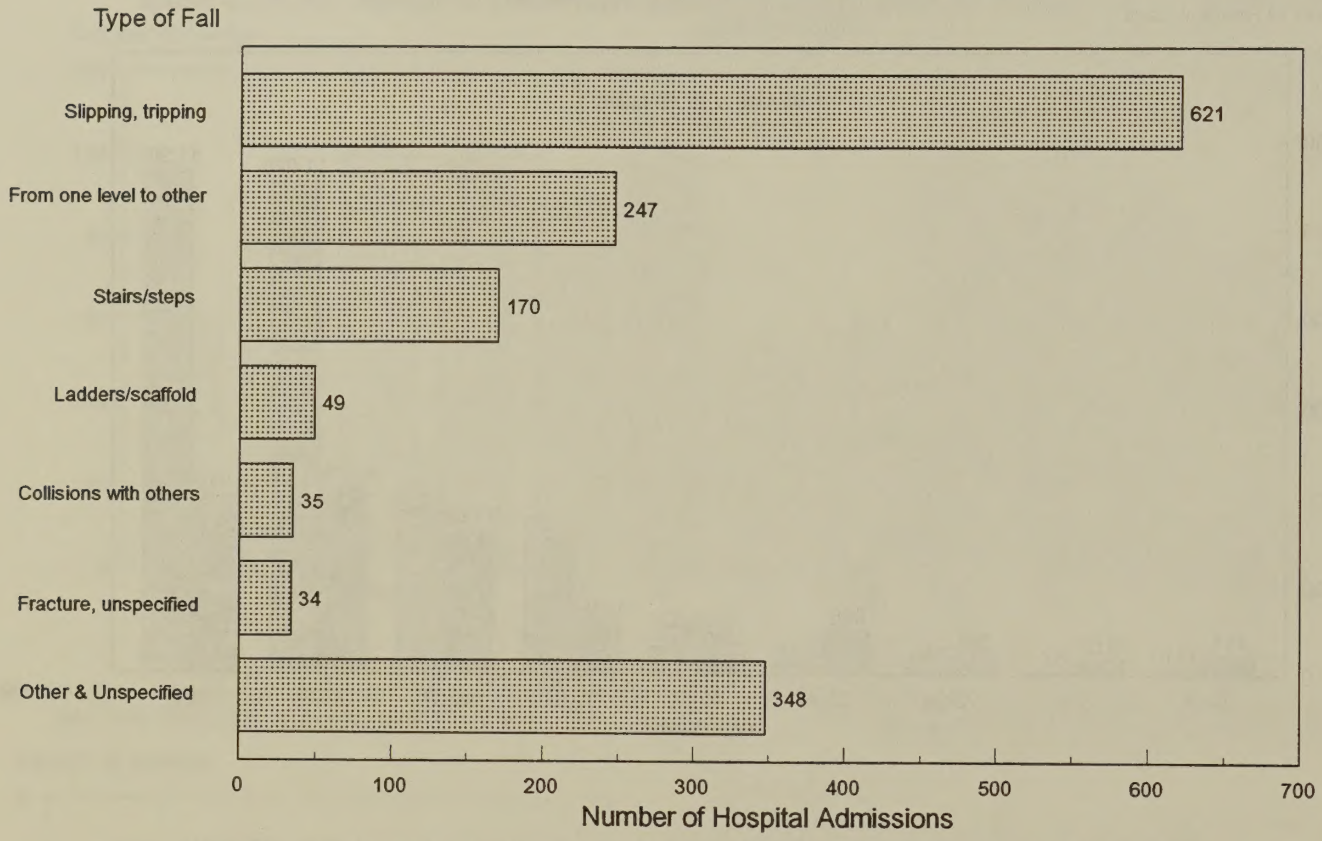
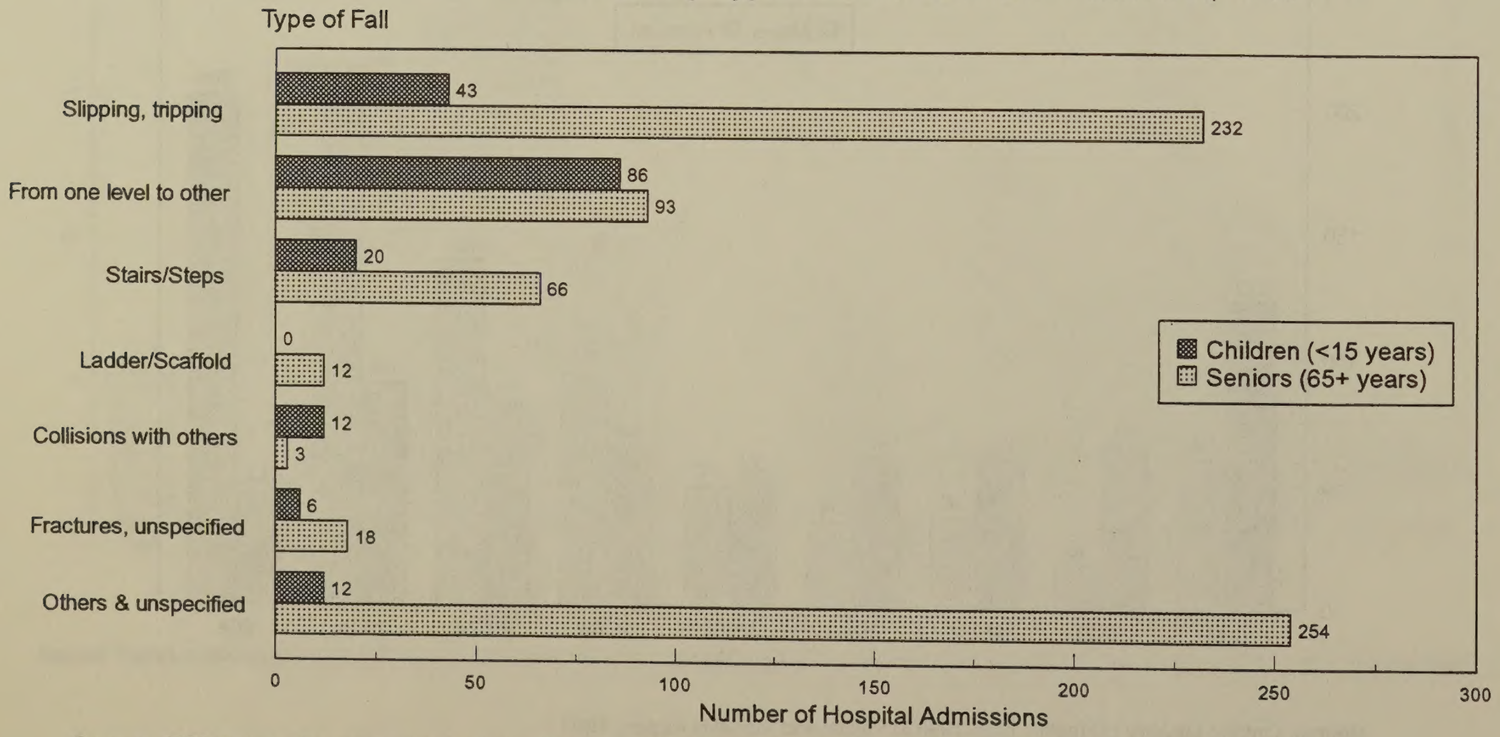
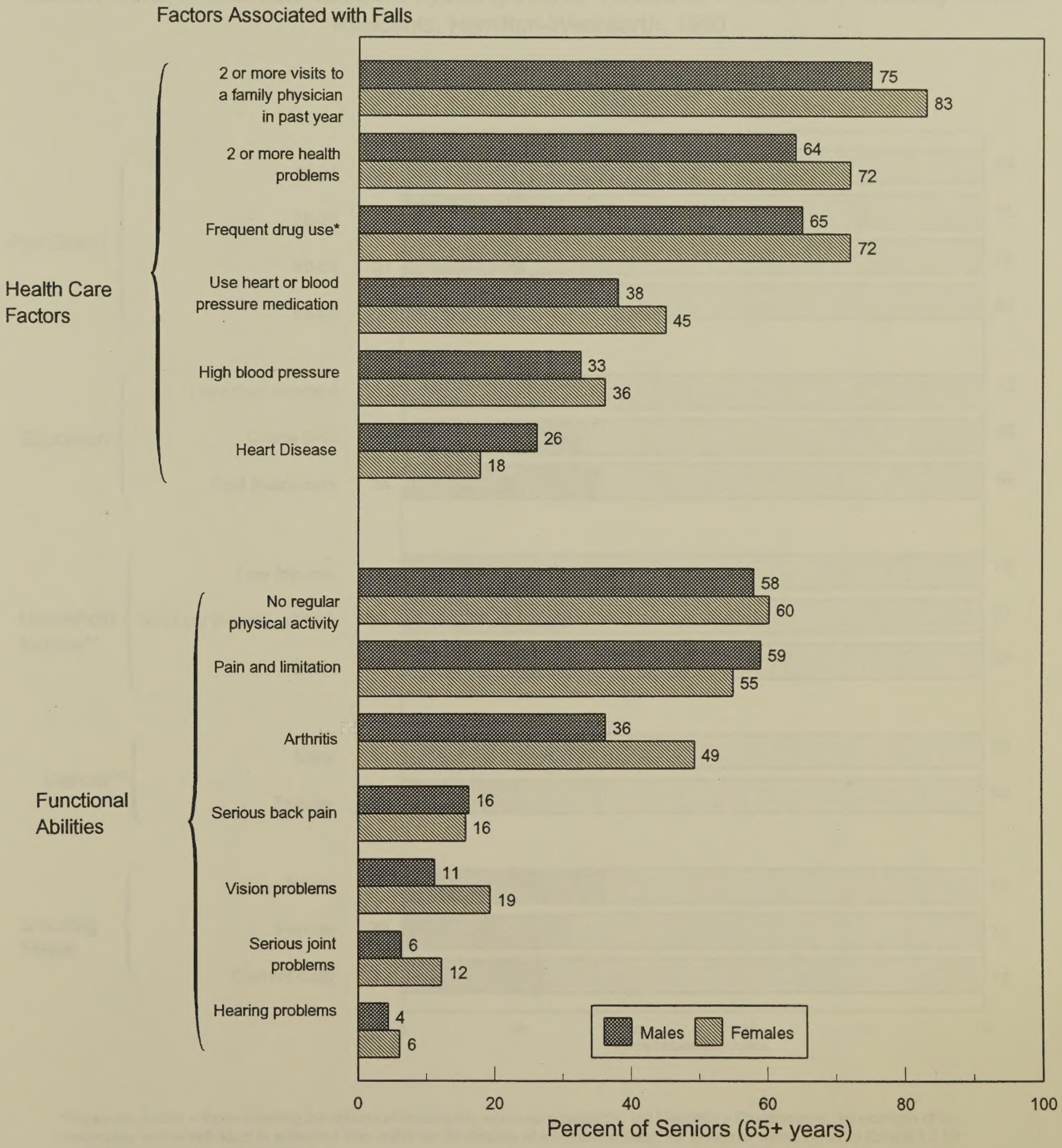


Exhibit 4.2.4.16. ***Hospital Admissions Due to Falls*** in ***Children*** and ***Seniors***, by ***Type of Fall***, Hamilton-Wentworth, 1990



Source: 1990 Ontario Trauma Registry Ad Hoc Report; Contact Ernie Jodoin, Hamilton-Wentworth District Health Council.

Exhibit 4.2.4.17. Prevalence of ***Factors Associated with Falls*** in ***Seniors*** (Aged 65+), by ***Gender***, Hamilton-Wentworth, 1990



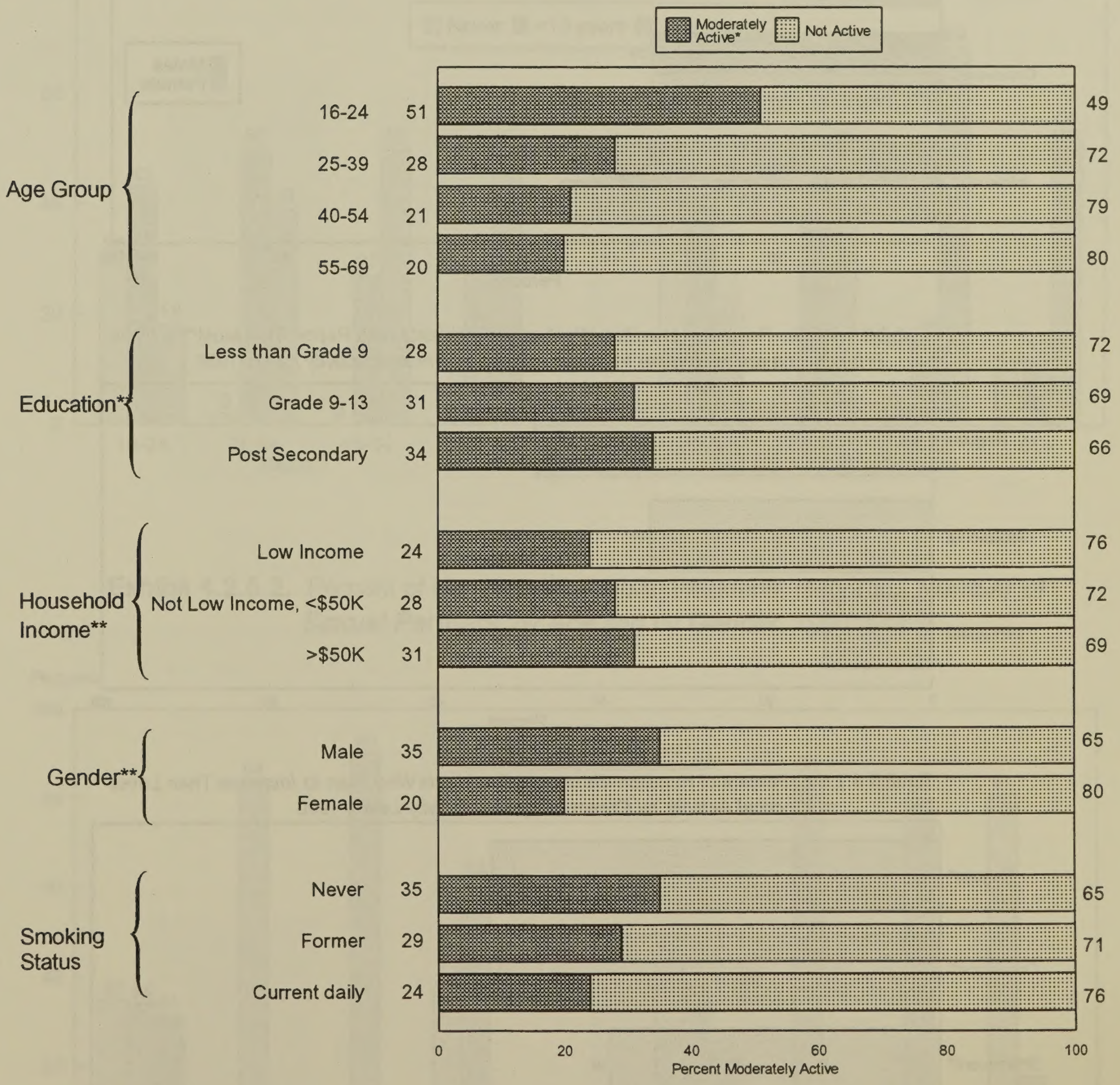
* more than two types of prescription and over-the-counter drugs in past 14 days

Source: 1990 Ontario Health Survey, Ontario Ministry of Health, 1992

Note: See also *Infowatch* **It Was an Accident... or Was It?** in Section 6.1.

4.2.5. Physical Activity

Exhibit 4.2.5.1. Characteristics of ***Physically Active**** Residents versus ***Not-Physically Active*** Residents, Hamilton-Wentworth, 1990



*Physically Active = those meeting the criteria of moderately active as specified in the Mandatory Programmes. An example of a moderately active individual is someone who walks for 30 minutes at a moderate pace, six times per week. Refer to Exhibit 1.1 for adefinitions of income and education.

** Analysis on those aged 20-64 years

Source: 1990 Ontario Health Survey, Ontario Ministry of Health, 1992.

Note: See also *Infowatch*es **Lights..Camera..(In)Action?** and **A Healthy Balance!** in Section 6.1.

Exhibit 4.2.5.2. Percent of Hamilton-Wentworth ***Residents Who Believe*** That ***Current Level Of Activity*** Will ***Lead to Health Problems***, by ***Current Activity Level**** and by ***Gender***, 1990

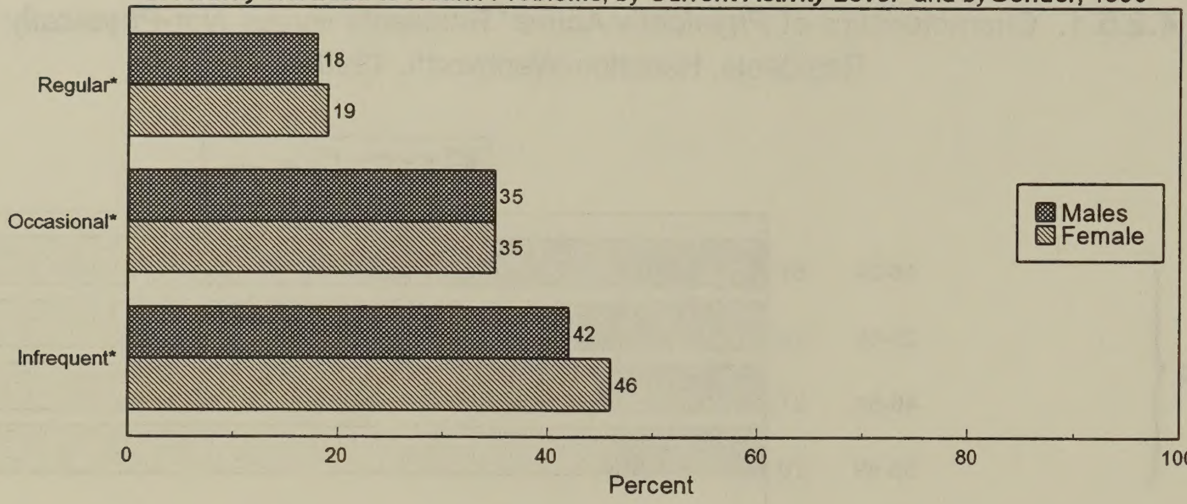


Exhibit 4.2.5.3. Percent of Hamilton-Wentworth ***Residents*** Who Report That Most** of Their ***Friends Engage in Regular Physical Activity***, by ***Present Activity Level***, 1990

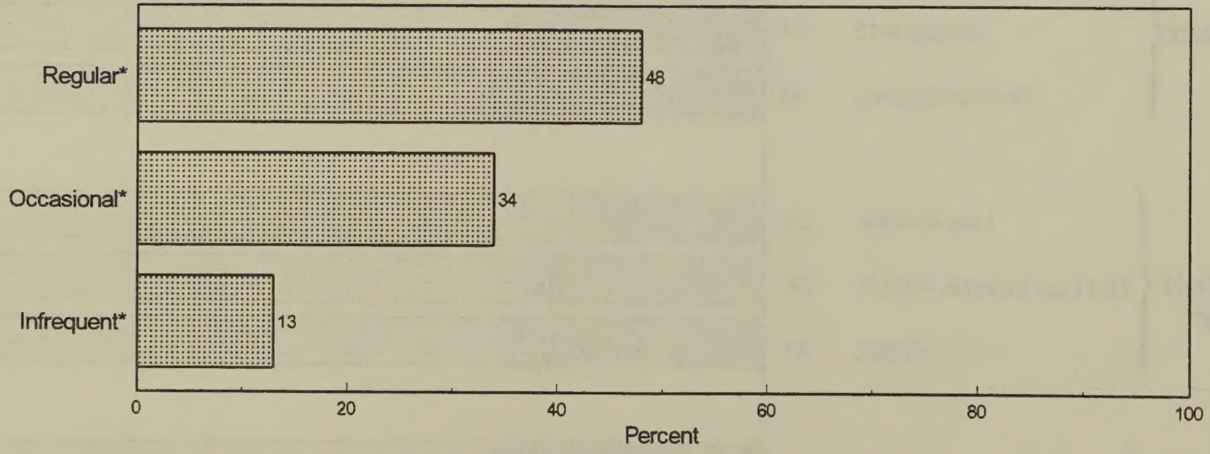
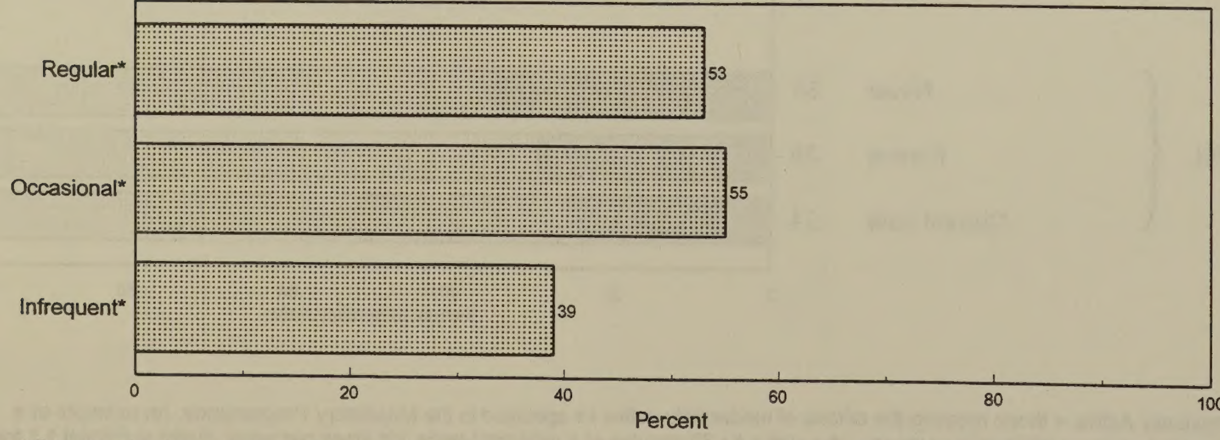


Exhibit 4.2.5.4 Percent of Hamilton-Wentworth ***Residents*** Who ***Plan to Increase*** Their ***Level of Physical Activity***, by ***Present Physical Activity Level***, 1990.



* Regular physical activity = 12 or more activities in past month, each lasting > 15 minutes; Occasional = physical activities 4-11 times per month, each lasting > 15 minutes; Infrequent = less than 4 activites per month, each lasting > 15 minutes.

**Most = Most or Half

Source: Ontario Ministry of Health, 1990 Ontario Health Survey, 1992

4.2.6. Sexual Behaviour

Exhibit 4.2.6.1. Percent of Hamilton-Wentworth Residents Reporting ***Age at First Sexual Intercourse***, by ***Age*** and by ***Gender***, 1990

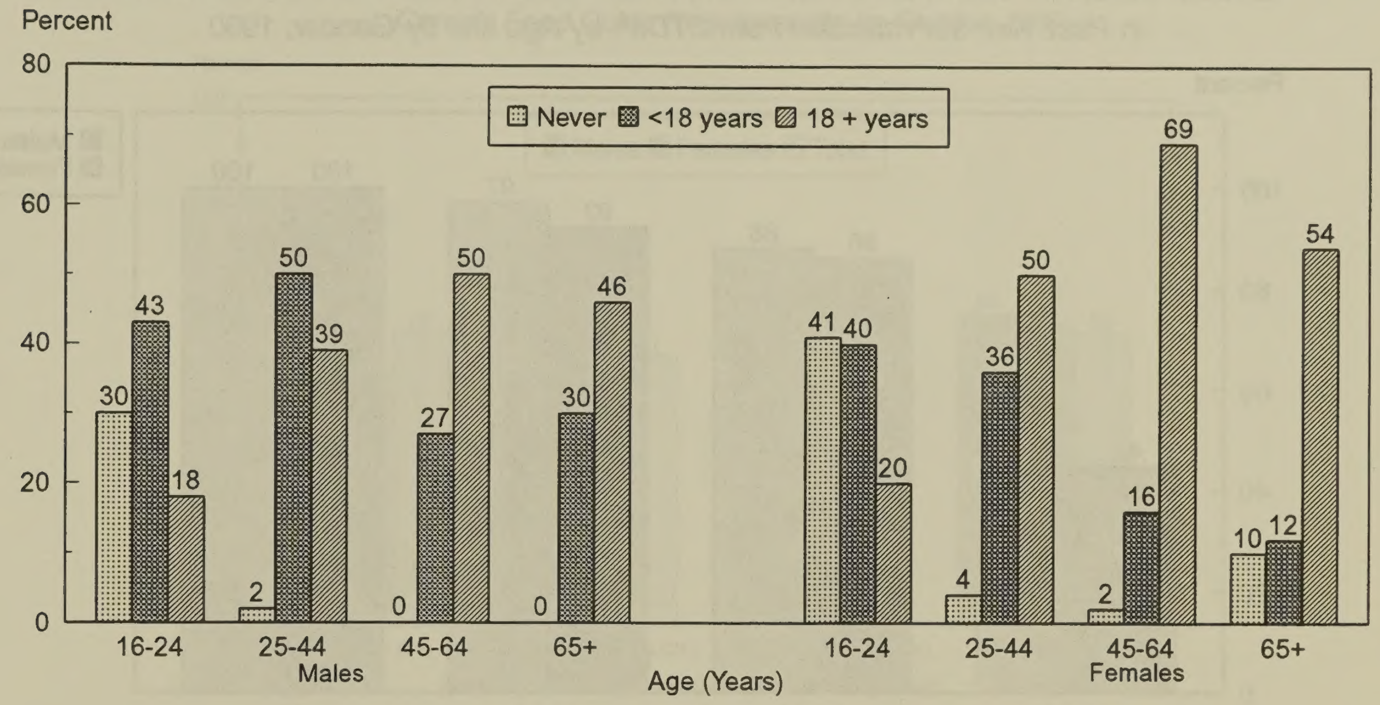
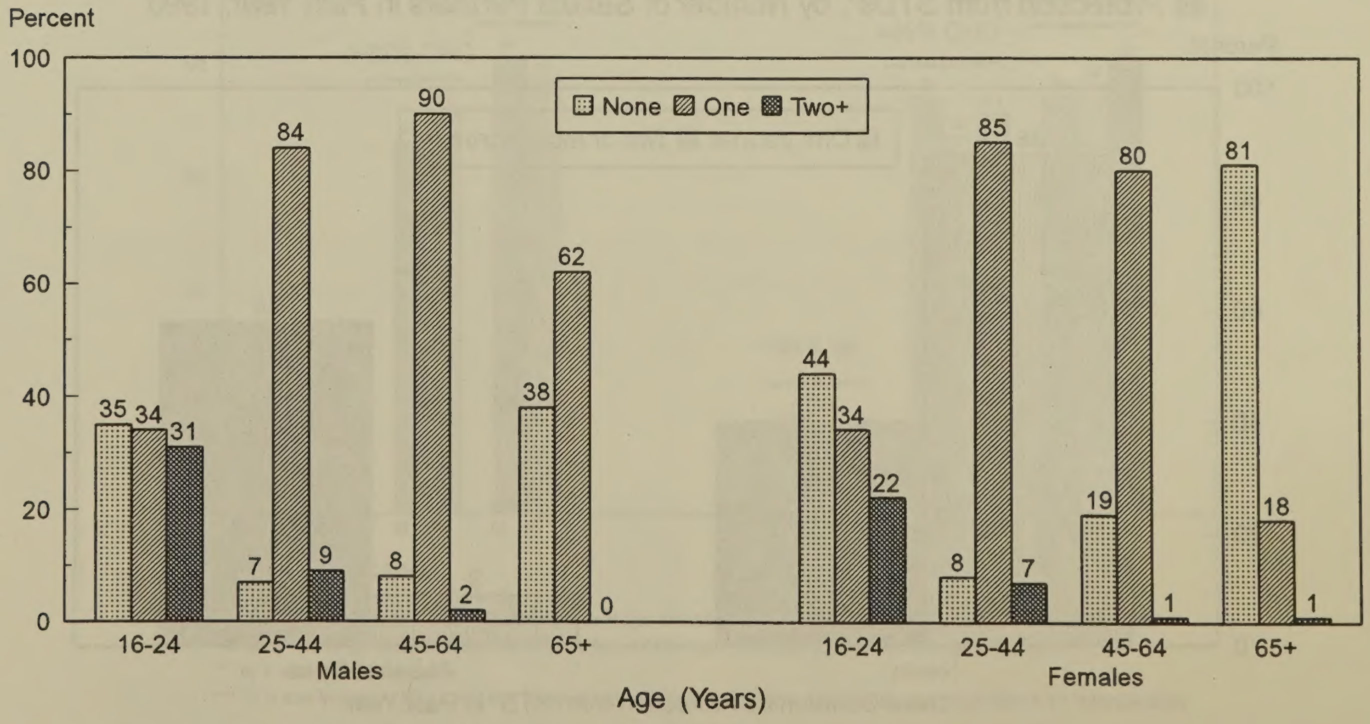


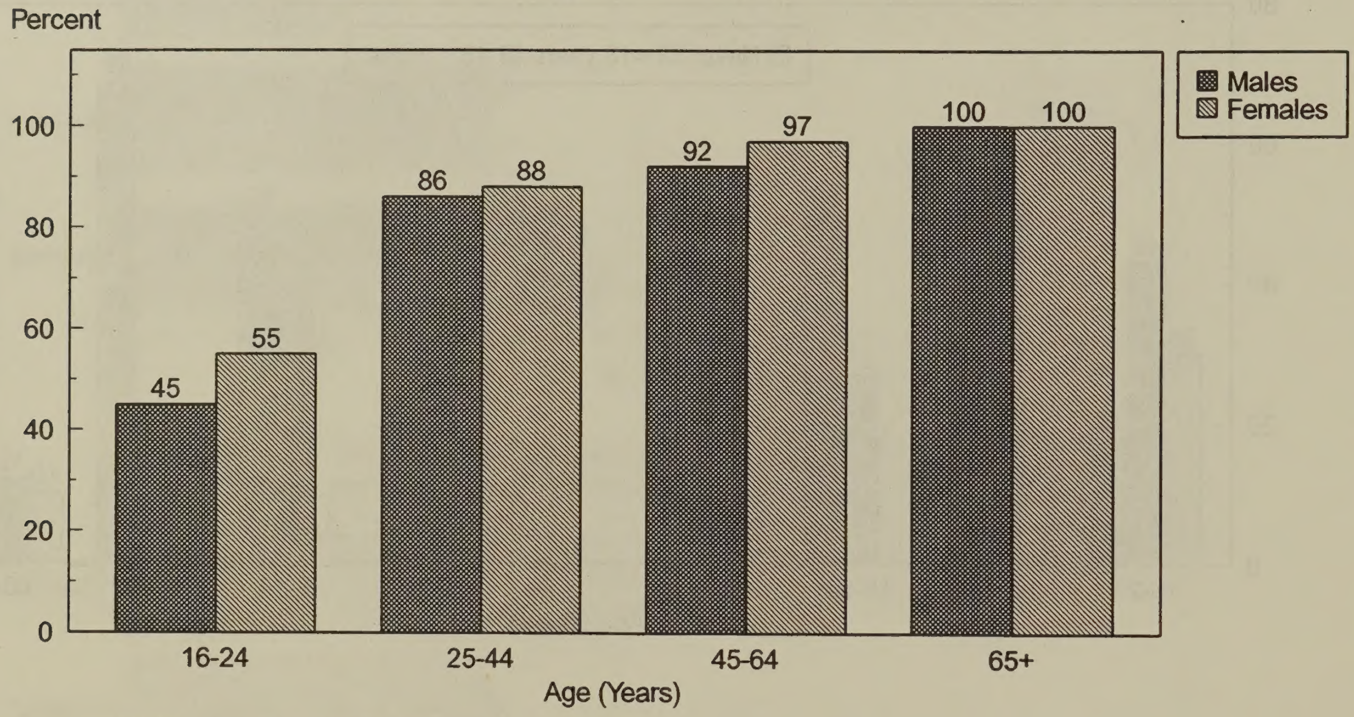
Exhibit 4.2.6.2. Percent of Hamitlon-Wentworth Residents Reporting ***Number of Sexual Partners***, by ***Age*** and by ***Gender,*** 1990



Source: Ontario Minsitry of Health. 1990 Ontario Health Survey. 1992.

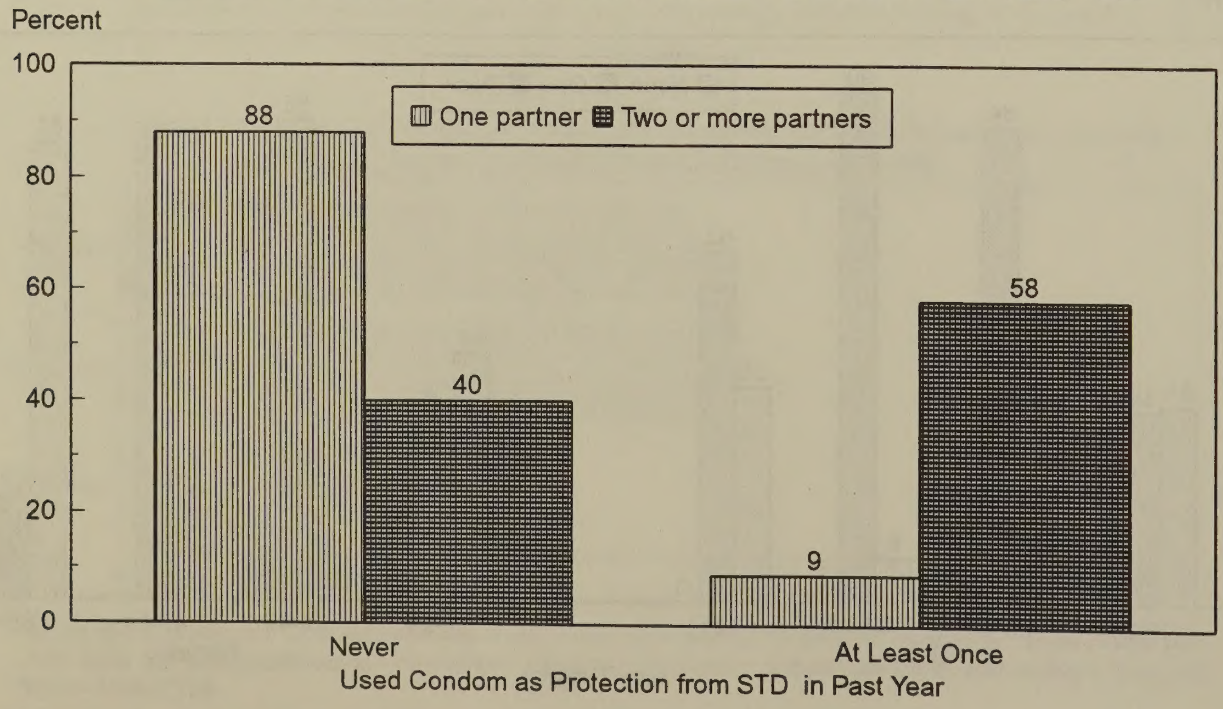
Note: See also Section 3.5, **Reproductive Health.**

Exhibit 4.2.6.3. ***Percent*** of Hamilton Wentworth Residents Who ***Never Used Condoms*** in ***Past Year*** as ***Protection from STDs****, by ***Age*** and by ***Gender,*** 1990



*STDs = sexually transmitted diseases

Exhibit 4.2.6.4. ***Percent*** of Hamilton-Wentworth Residents Who Reported ***Use of Condoms*** as ***Protection from STDs****, by ***Number*** of ***Sexual Partners*** in ***Past Year***, 1990



Source: Ontario Minsitry of Health. 1990 Ontario Health Survey. 1992.

Exhibit 4.2.7.1. ***Percent*** of Hamilton-Wentworth ***Residents*** Who Met ***Canada Food Guide Requirements***, by ***Gender***, 1990

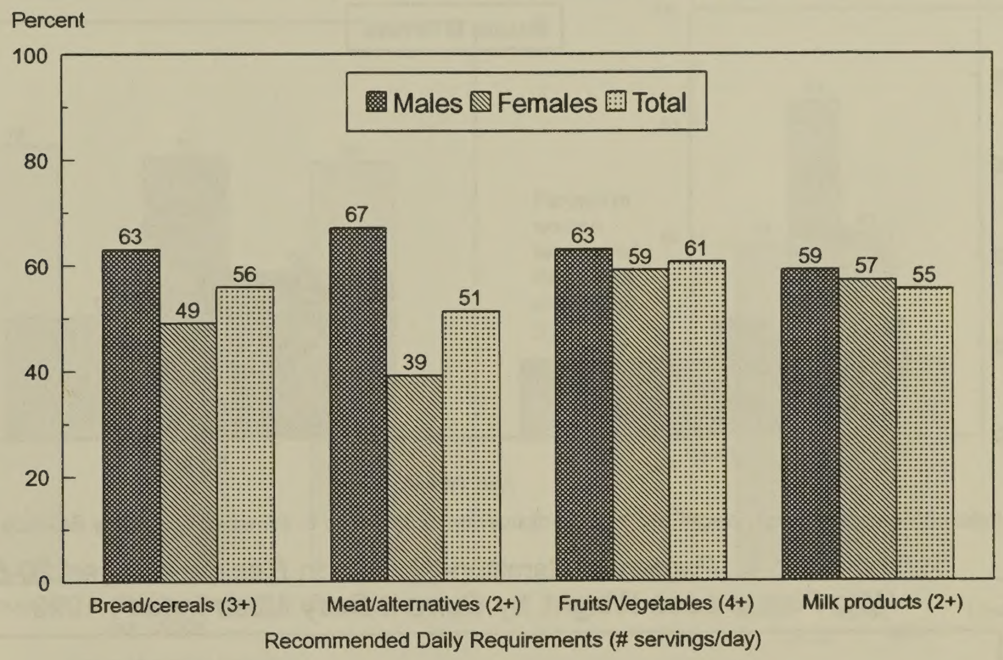
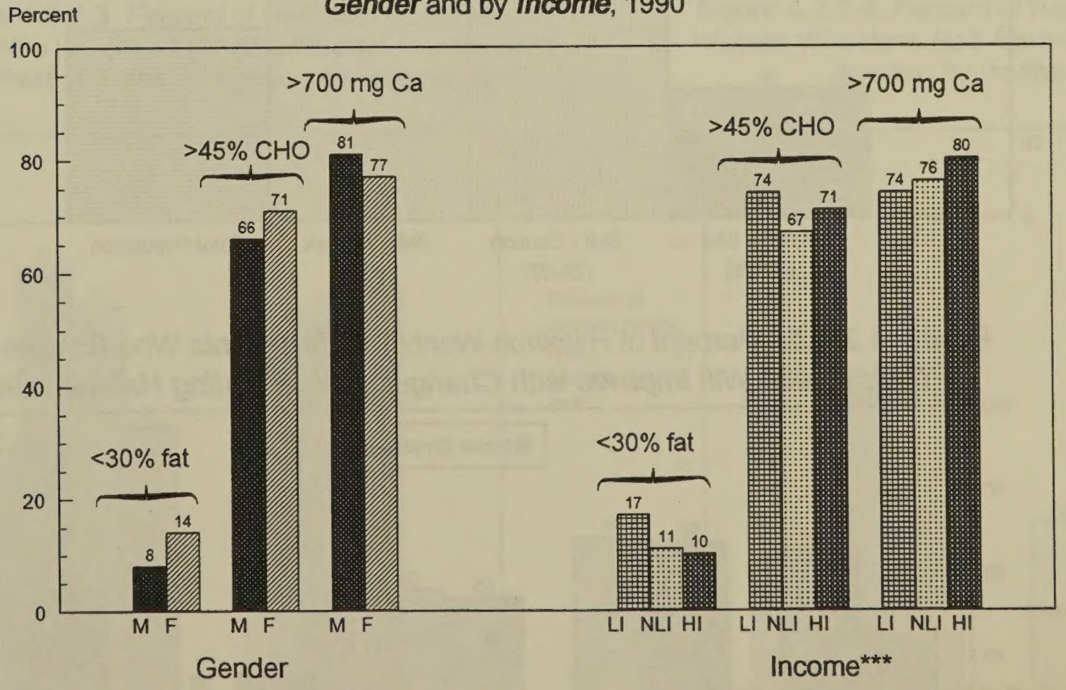


Exhibit 4.2.7.2. ***Percent*** of Hamilton-Wentworth ***Residents*** Who Met ***Recommended Daily Intakes for Fat, Carbohydrate*** and ***Calcium***, by ***Gender*** and by ***Income***, 1990



* Recommendations for daily intake: percentage of daily energy intake not to exceed 30% from fat and at least >45% as carbohydrate (CHO). At least 700 mg of calcium (Ca) is recommended daily.

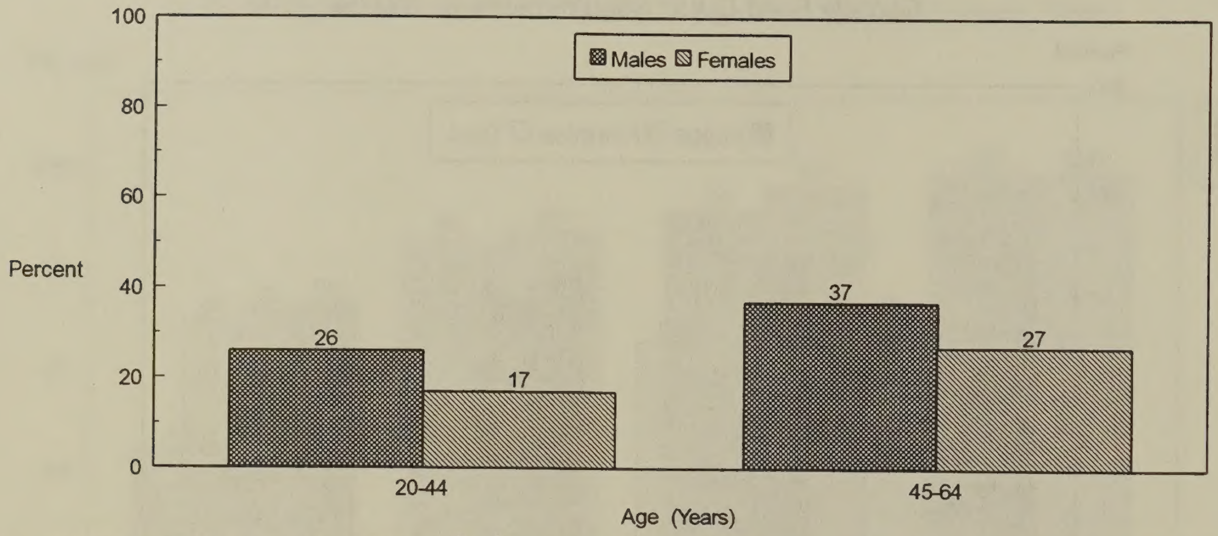
** M = male; F = female

*** LI = low income ; NLI = not low income but <$50K; HI = $50K+ (refer to income definitions in Introduction).

Source: Ontario Ministry of Health. 1990 Ontario Health Survey. 1992.

Note: See also *Infowatch* **You Are What You Eat?** in Section 6.1.

Exhibit 4.2.7.3. ***Percent*** of Hamilton-Wentworth ***Residents Aged 20-64*** With ***Body Mass Index**** ***Exceeding 27.0***, by ***Age*** and by ***Gender***, 1990



*Body Mass Index (BMI) = weight (kg) / height^2 (m^2); For a discussion of BMI, refer to *Infowatch* **A Healthy Balance** in Section 6.1.

Exhibit 4.2.7.4. ***Percent*** of Hamilton-Wentworth ***Residents Aged 20-64*** Who Plan to ***Lose Weight,*** by ***Current Body Mass Index****, 1990

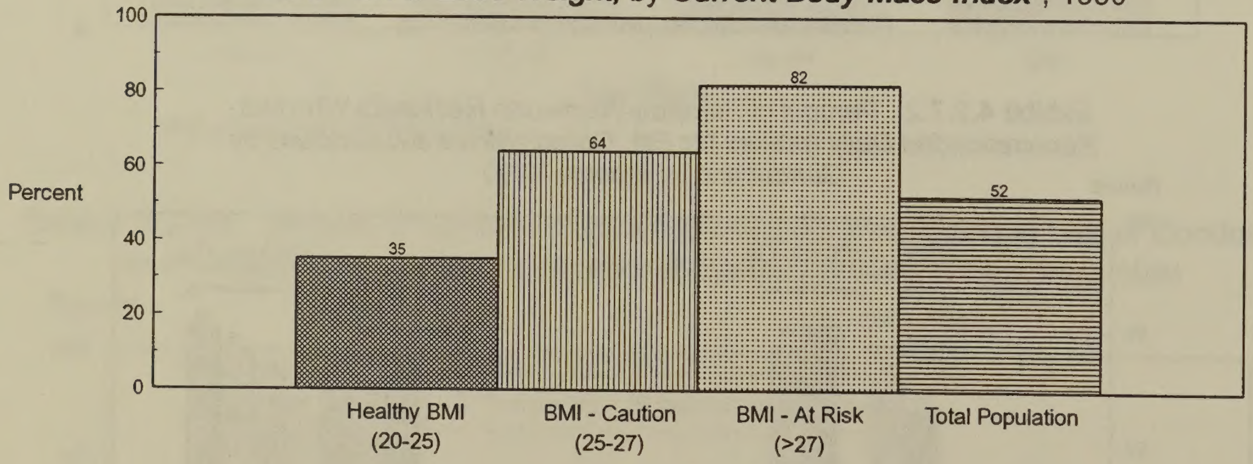
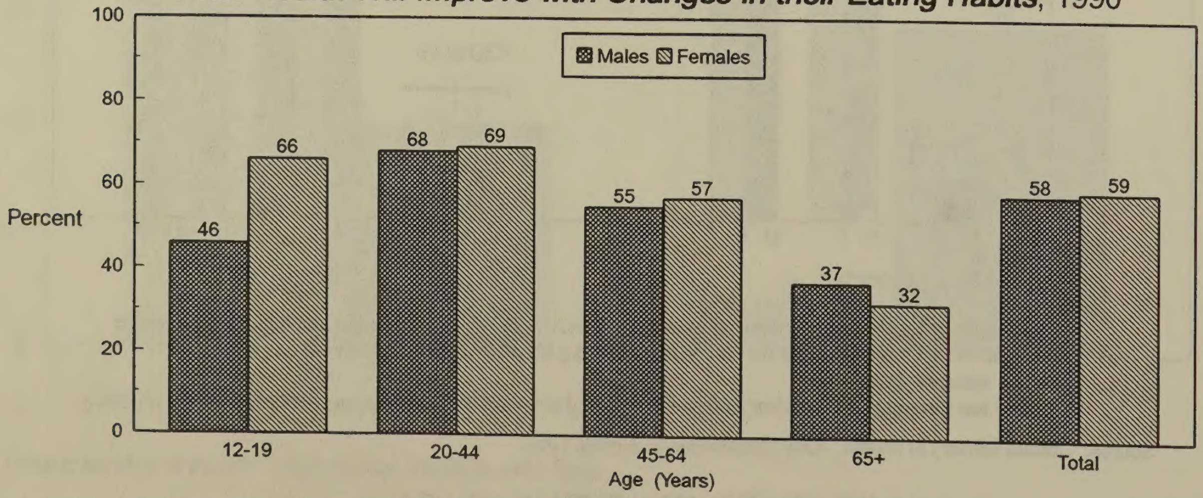
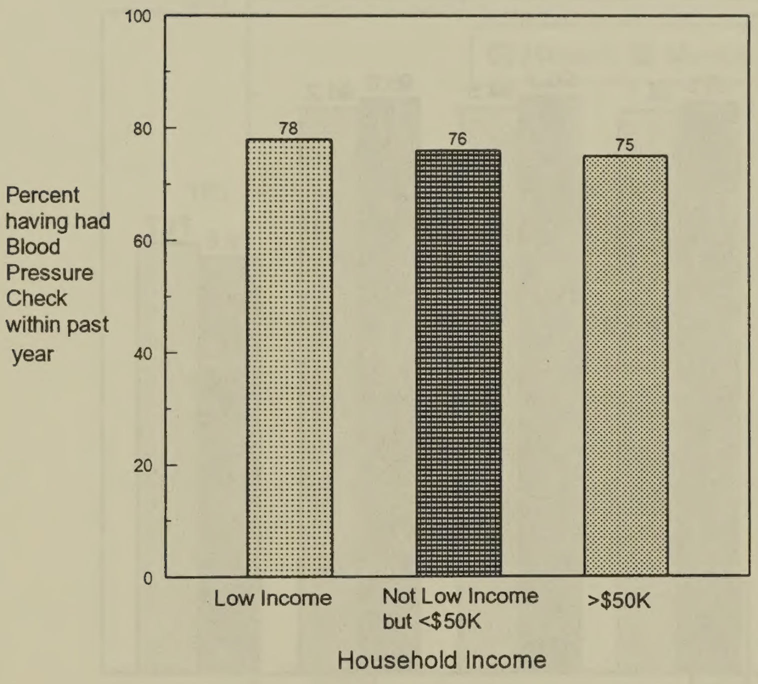


Exhibit 4.2.7.5. ***Percent*** of Hamilton-Wentworth ***Residents*** Who ***Believe*** that ***Their Health Will Improve with Changes in their Eating Habits***, 1990



Source: Ontario Ministry of Health, 1990 Ontario Health Survey, 1992.

Figure 4.2.8.1. ***Percent*** of Hamilton-Wentworth Residents Who Have Had Their ***Blood Pressure Checked Within the Past Year,*** by ***Income***, 1990



*Note: Refer to Exhibit 1.1 for income definitions

Figure 4.2.8.2. ***Percent*** of Hamilton- Wentworth ***Women*** Who Have Had a ***Pap Smear Within the Past 2 Years,*** by ***Age*** and by ***Income***, 1990

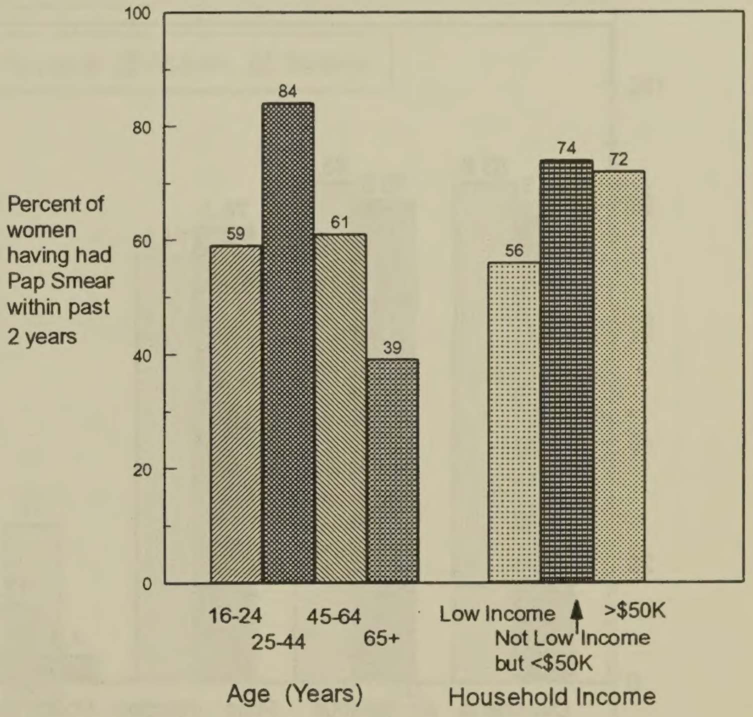


Figure 4.2.8.3. ***Percent*** of Hamilton-Wentworth ***Women*** Who Have Had ***Physical Breast Examination Within Past 2 Years***, by ***Age*** and by ***Income,*** 1990

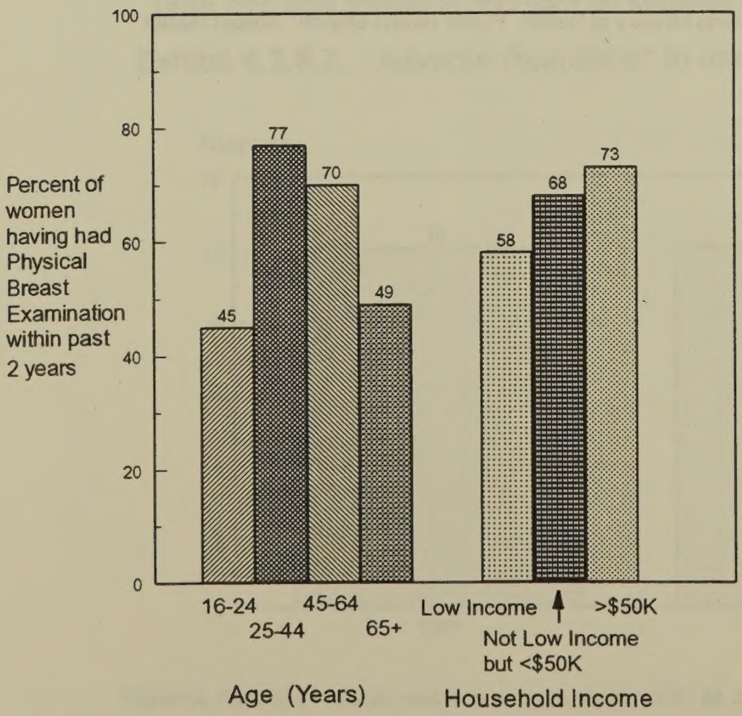
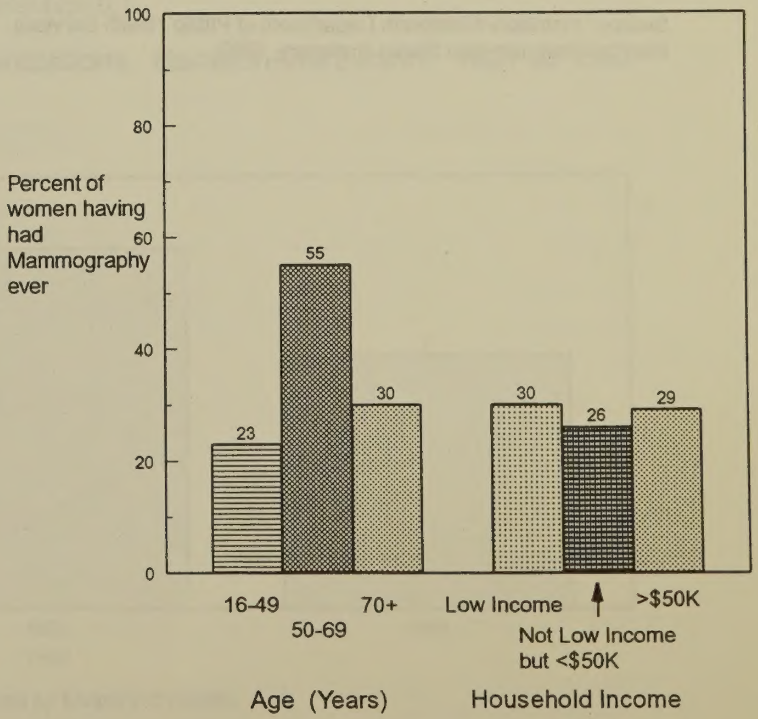
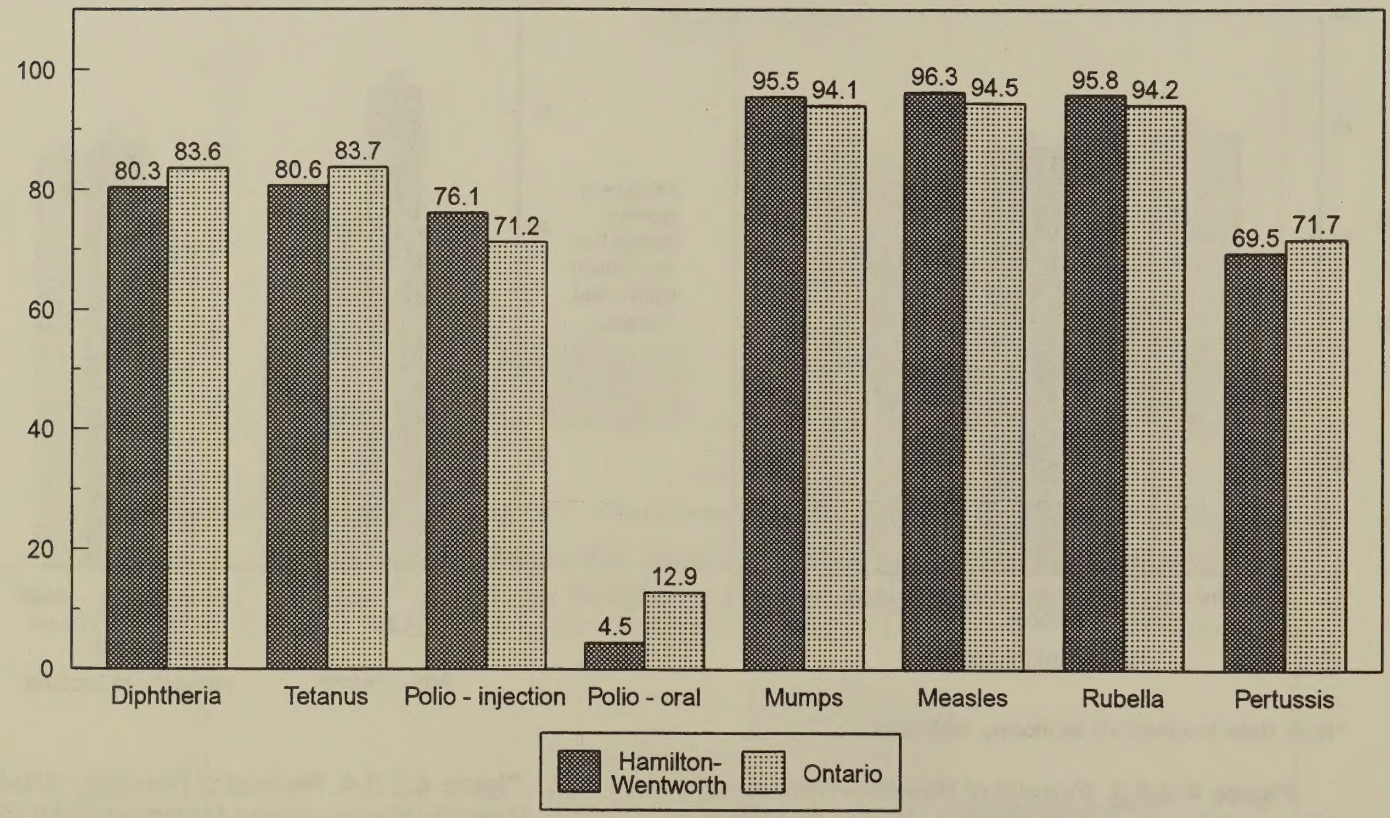


Figure 4.2.8.4. ***Percent*** of Hamilton- Wentworth ***Women*** Who Have Had ***Mammography Ever***, by ***Age*** and by ***Income,*** 1990



Source: Ontario Ministry of Health, 1990 Ontario Health Survey, 1992

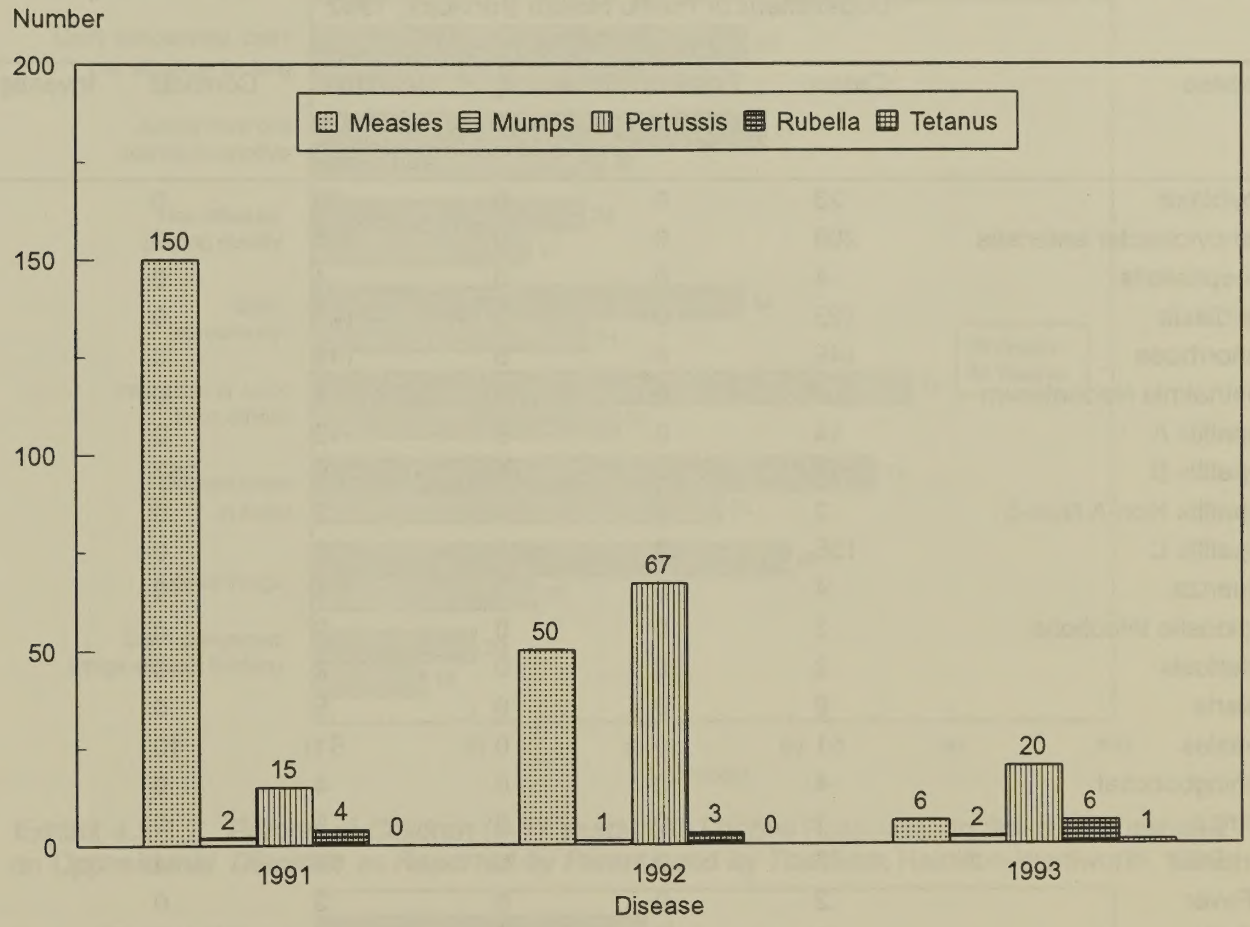
Exhibit 4.2.8.5. Percent of ***Students**** with ***Complete Immunization*** Coverage for **Age**, by ***Vaccine Type***, ***Hamilton-Wentworth*** and ***Ontario***, 1993



* Students = those registered in public and private schools in Hamilton-Wentworth.

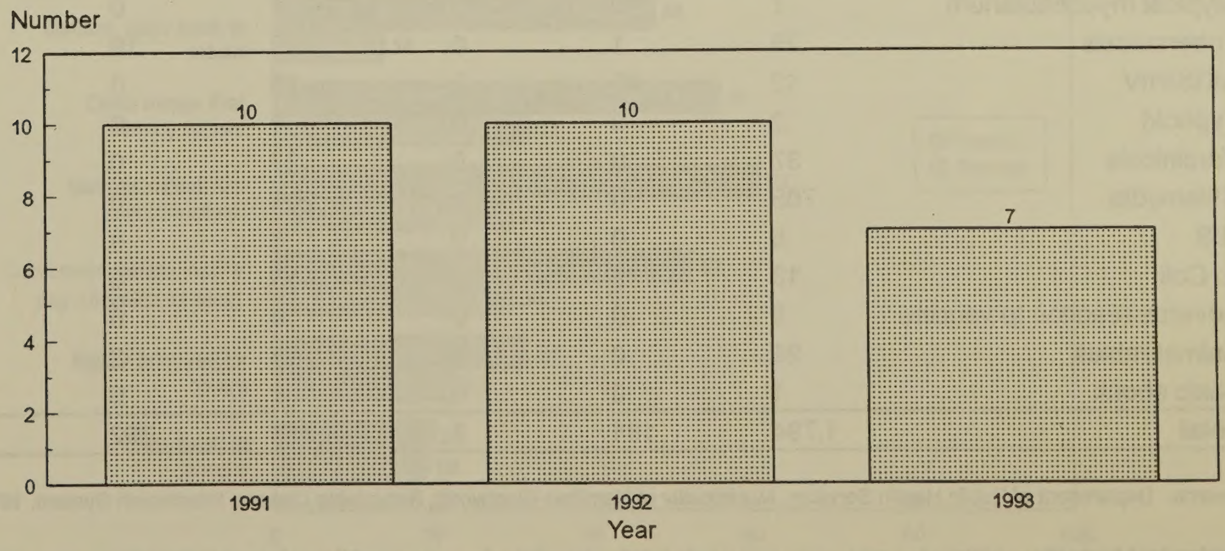
Source: Hamilton-Wentworth Department of Public Health Services. Ontario Ministry of Health. Public Health Branch. School Health Services Immunization Status Summary, 1993.

Exhibit 4.2.8.6. ***Vaccine Preventable Diseases**** in Hamilton-Wentworth, ***1991 to 1993***



Note: See also *Infowatch* **Spotlight on Measles** in Section 6.1

Exhibit 4.2.8.7. ***Adverse Reactions* to Immunizations***, Hamilton-Wentworth, ***1991 to 1993***



*Adverse Reaction = severe reactions such as convolutions as defined by Ministry of Health.

Source: Department of Public Health Services, Municipality of Hamilton-Wentworth, Reportable Disease Information System, 1993.

Exhibit 4.2.8.8. Investigations of Reportable Diseases by Hamilton-Wentworth Department of Public Health Services, 1992

Disease	Cases	Carrier/ infection	Previously treated	Confirmed carriers and cases	Contacts	Investigations
Amebiasis	23	0	0	23	0	23
Campylobacter enteristis	206	0	0	205	0	206
Encephalistis	4	0	0	4	0	4
Giardiasis	123	0	0	121	0	123
Gonorrhoea	149	0	0	149	0	149
Ophthalmia Neonatorum	1	0	0	1	0	1
Hepatitis A	14	0	0	12	0	14
Hepatitis B	14	153	0	160	357	526
Hepatitis Non-A Non-B	2	0	0	2	0	2
Hepatitis C	135	2	0	133	0	137
Influenza	4	0	0	1	0	4
Legionella Infections	3	0	0	2	0	3
Listeriosis	2	0	0	2	0	2
Malaria	9	0	0	9	0	9
Measles	51	0	0	51	10	61
Meningococcal	4	0	0	4	0	4
Mumps	1	0	0	1	0	1
Pertussis	67	0	0	67	4	71
Q Fever	2	0	0	2	0	2
Rubella	3	0	0	3	0	3
Salmonella infections	106	0	0	105	0	106
Shigellosis	13	0	0	13	0	13
Syphilis	12	0	7	19	0	19
Atypical mycobacterium	7	0	0	4	0	7
Tuberculosis	29	1	0	26	19	49
AIDS/HIV	12	25	0	28	0	37
Typhoid	2	0	0	2	0	2
Yersiniosis	37	0	0	37	0	37
Chlamydia	705	0	0	701	0	705
HIB	5	0	0	5	0	5
E. Coli	13	0	0	13	0	13
Adverse reaction to vaccine	9	0	0	9	0	9
Animal rabies	26	0	0	4	2	28
Toxic shock	1	0	0	1	0	1
Total	1,794	181	7	1,919	392	2,376

Source: Department of Public Health Services, Municipality of Hamilton-Wentworth, Reportable Disease Information System, 1992.

Refer to Mortality section for age, gender and risk factor data for many of the above-listed diseases (Exhibits 3.1.6 through 3.1.18).

Exhibit 4.3.1.1. ***Percent*** of ***Children (6-11 years)*** with Positive Responses to Selected Questions on ***Hyperactivity Disorder*** as ***Reported by Parents and by Teachers***, Hamilton-Wentworth, 1989

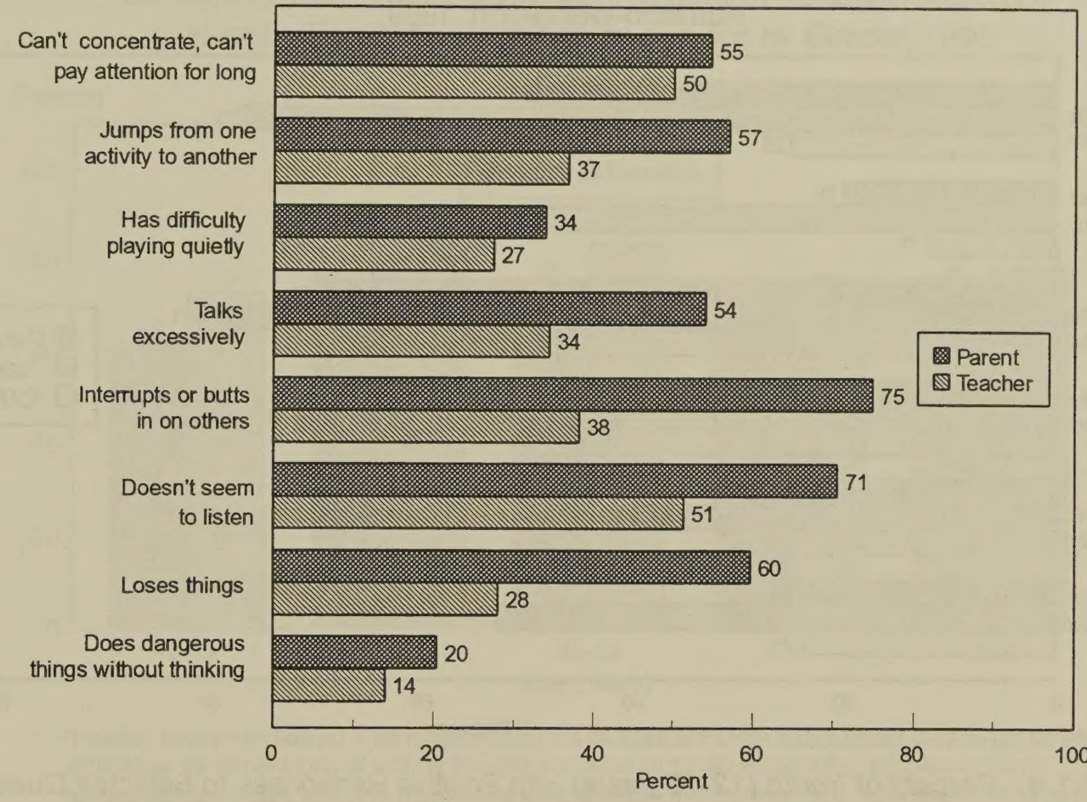
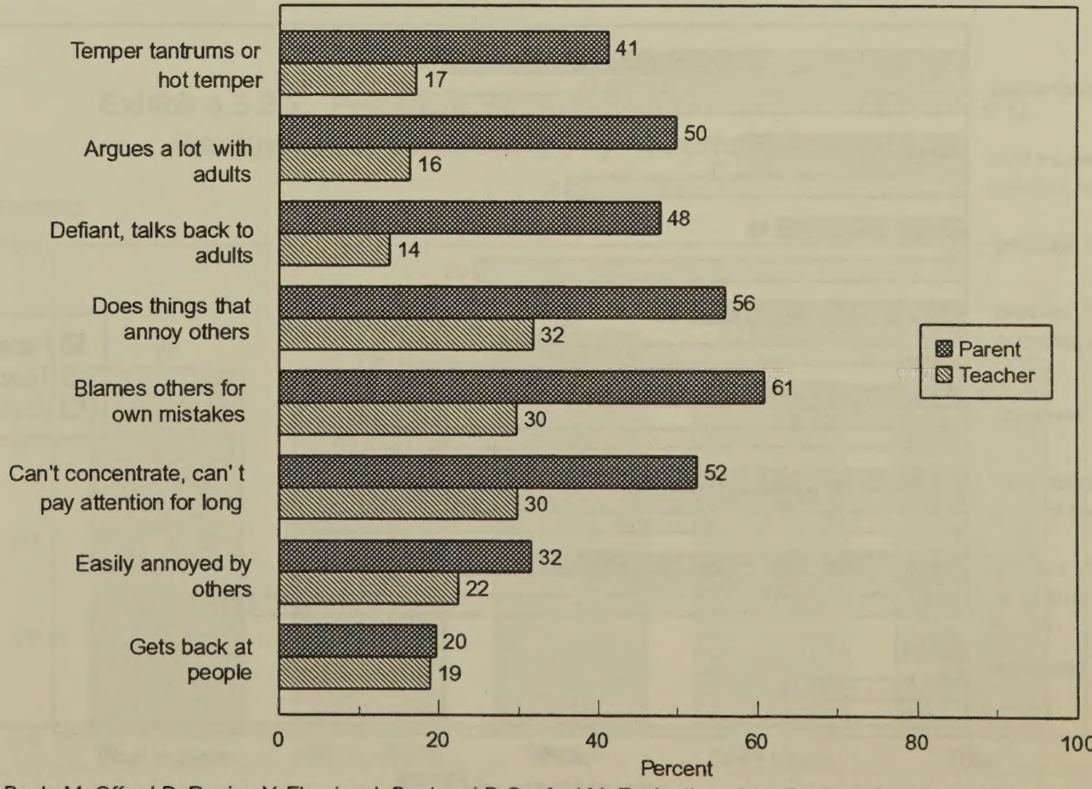


Exhibit 4.3.1.2. ***Percent*** of ***Children (6-11 years)*** with Positive Responses to Selected Questions on ***Oppositional Disorder*** as ***Reported by Parents and by Teachers***, Hamilton-Wentworth, 1989



Source: Boyle M, Offord D, Racine Y, Fleming J, Szatmari P, Sanford M. Evaluation of the Revised Ontario Child Health Study Scales. Journal of Child Psychology and Psychiatry. Vol. 34, No. 2, 189-212. 1993.

Note: Readers are strongly urged to refer to source article since this data represents selected information.

Exhibit 4.3.1.3. ***Percent*** of ***Youth (12-16 years)*** with Positive Responses to Selected Questions on ***Overanxious Disorder*** as ***Reported by Parents, by Teachers and by Youth,*** Hamilton-Wentworth, 1989

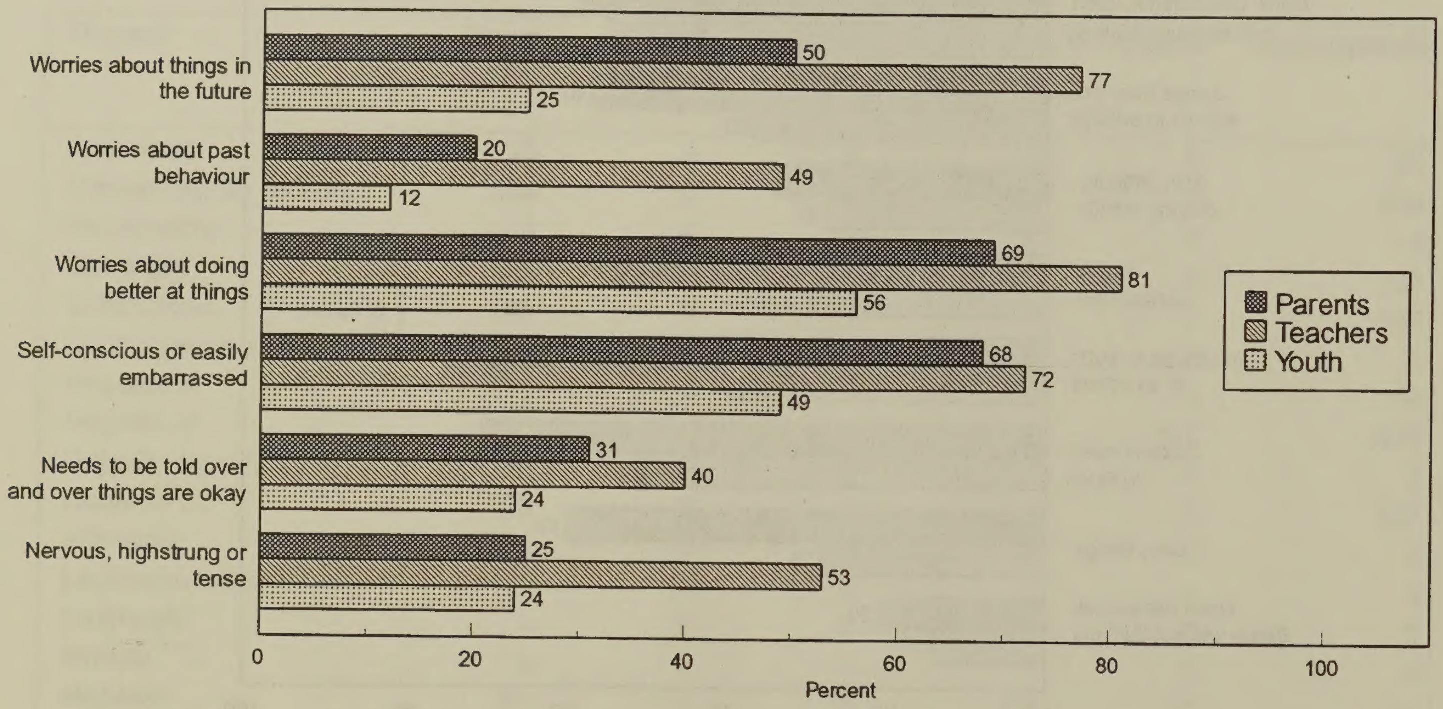
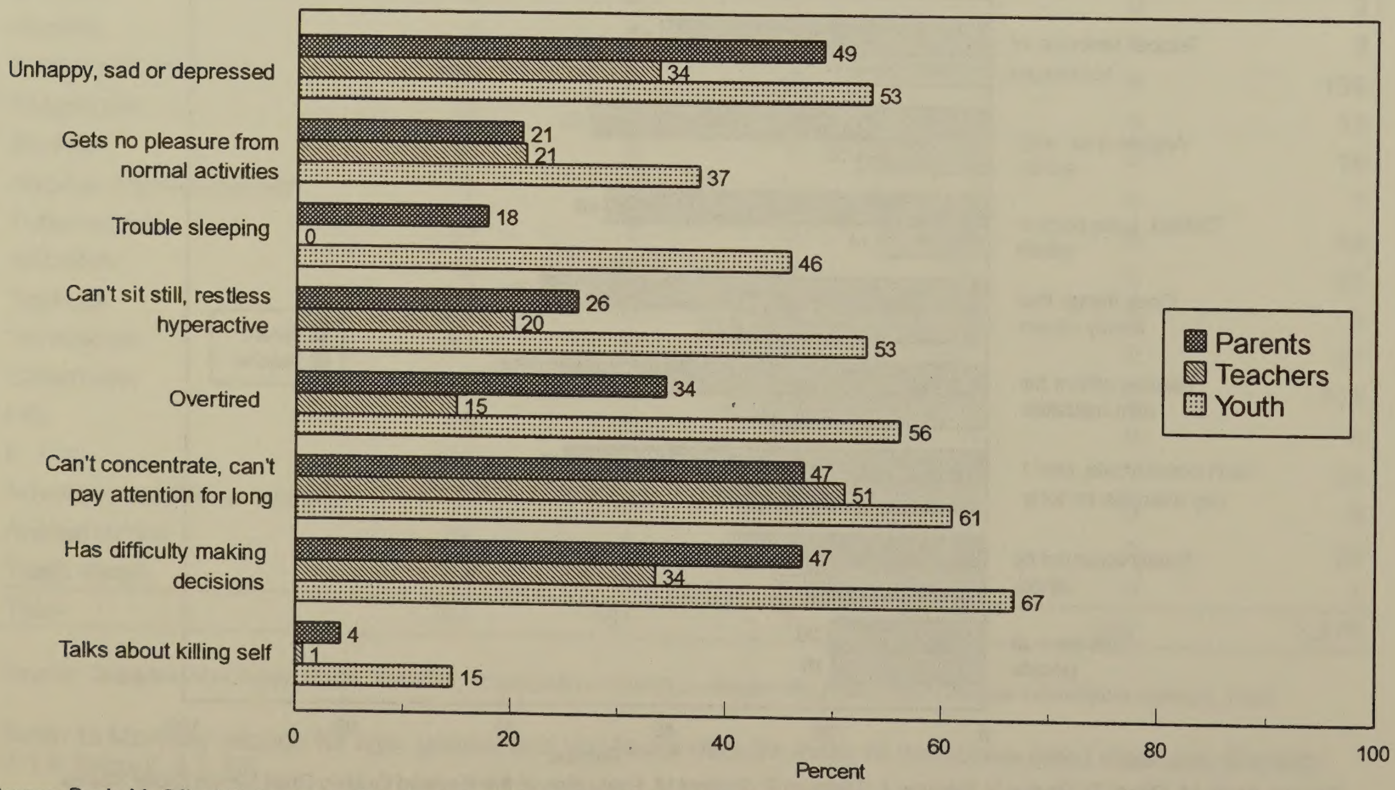


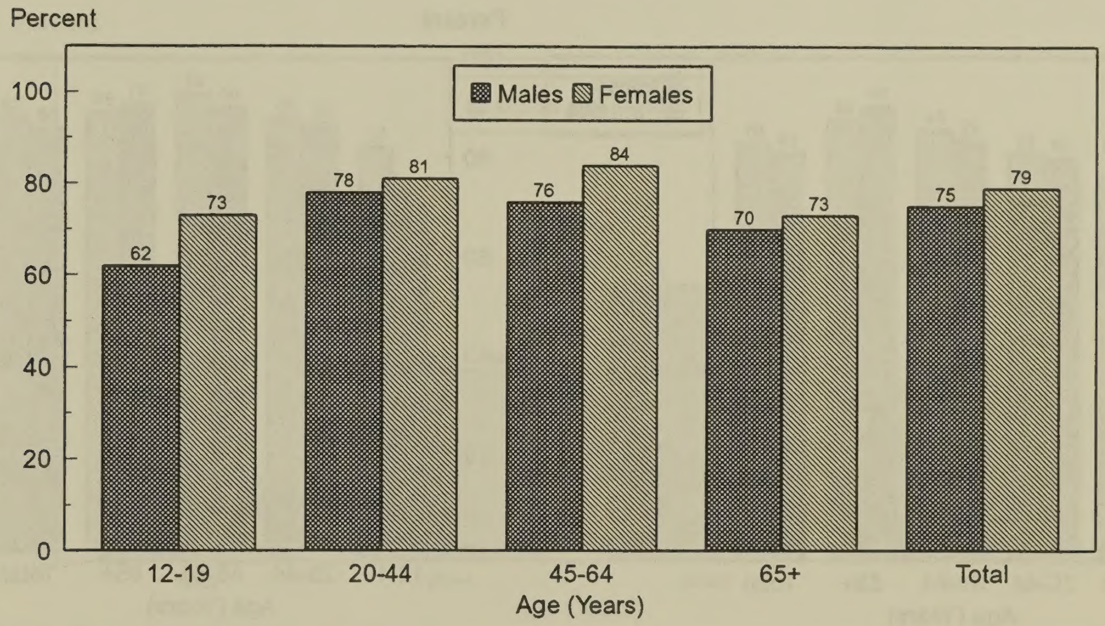
Exhibit 4.3.1.4. ***Percent*** of ***Youth (12-16 years)*** with Positive Responses to Selected Questions on ***Depression Disorder*** as ***Reported by Parents, by Teachers and by Youth,*** Hamilton-Wentworth, 1989



Source: Boyle M, Offord D, Racine Y, Fleming J, Szatmari P, Sanford M. Evaluation of the Revised Ontario Child Health Study Scales. Journal of Child Psychology and Psychiatry. Vol. 34, No. 2, 189-212. 1993.

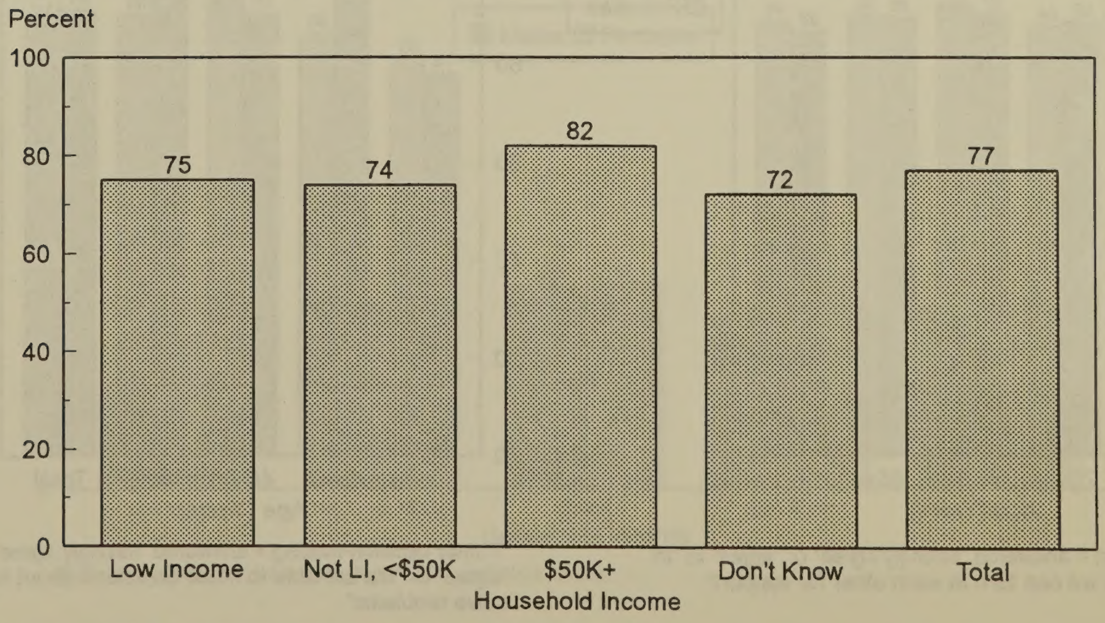
Note: Readers are strongly urged to refer to source article since this data represents selected information.

Exhibit 4.3.2.1. Percent of Hamilton-Wentworth Residents Reporting ***Healthy Family Functioning****, by ***Age*** and by ***Gender***, 1990



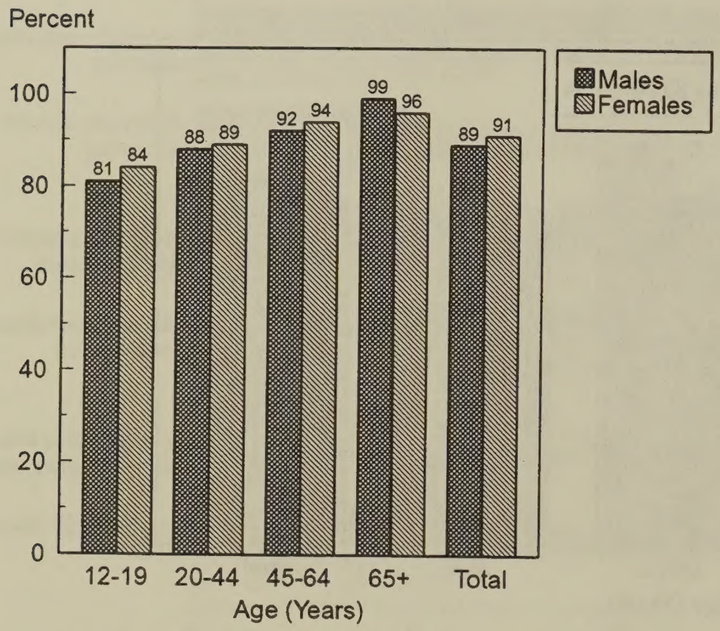
*Healthy family functioning = as measured by the McMaster Family Assessment Device (FAD) which addresses six dimensions of activity thought essential for family functioning: problem solving; communication, roles, affective responsiveness, affective involvement, and behaviour control; cut-off between healthy and dysfunctional was identified as best distinguishing families seek clinical help from the those in the general population; healthy family functioning = scores of less than 2.17.

Exhibit 4.3.2.2. Percent of Hamilton-Wentworth Residents Reporting ***Healthy Family Functioning****, by ***Household Income***, 1990



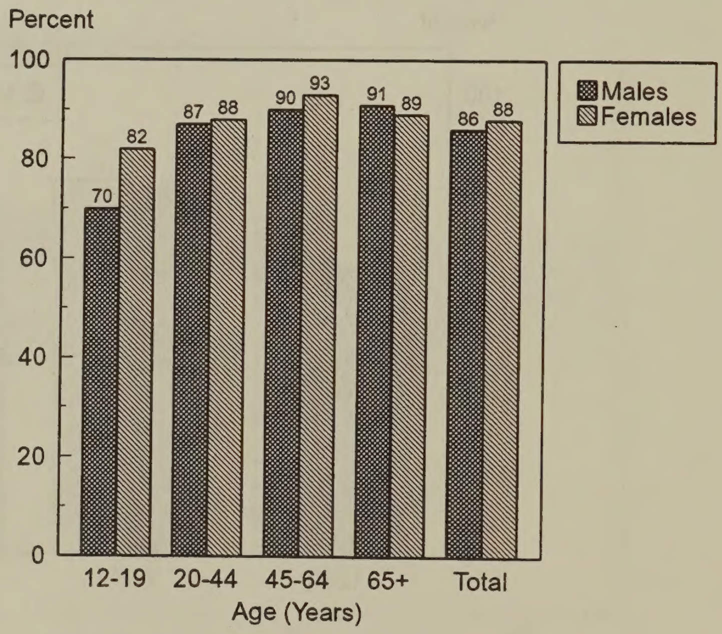
Source: Ontario Ministry of Health. 1990 Ontario Health Survey. 1992.

Exhibit 4.3.2.3. Percent of Hamilton-Wentworth Residents Reporting ***Family Acceptance of Individuals****, by ***Age*** and by ***Gender***, 1990



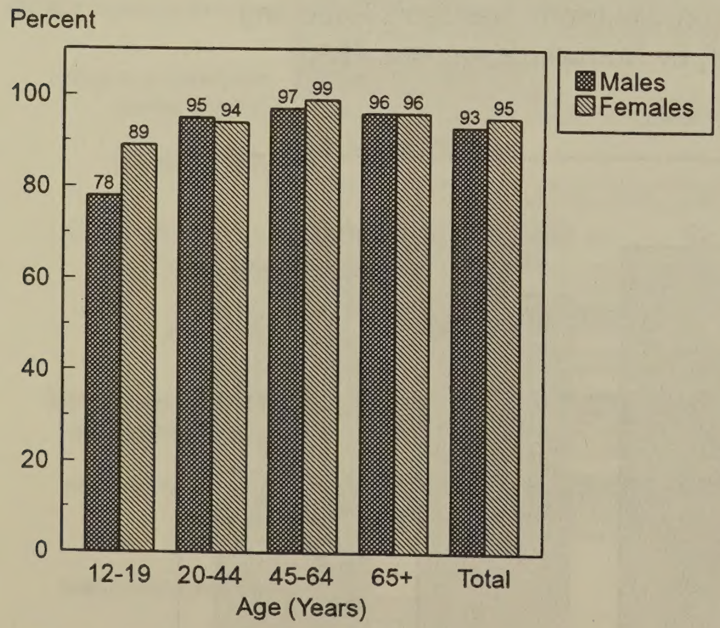
*Family acceptance of individuals = answered "strongly agree" or "agree" to **"Individuals (in the family) are accepted for what they are"**.

Exhibit 4.3.2.4. Percent of Hamilton-Wentworth Residents Reporting ***Family Expression of Feelings****, by ***Age*** and by ***Gender***, 1990



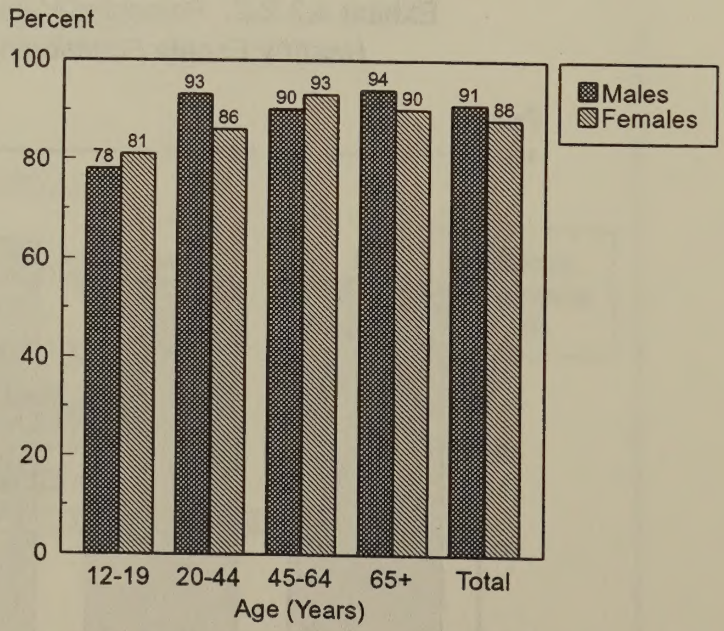
*Family epression of feelings = answered "strongly agree" or "agree" to **"We express feelings to each other"**.

Exhibit 4.3.2.5. Percent of Hamilton-Wentworth Residents Reporting ***Family Support****, by ***Age*** and by ***Gender***, 1990



*Family support = answered "strongly agree" or "agree" to **"In times of crisis we can turn to each other for support"**.

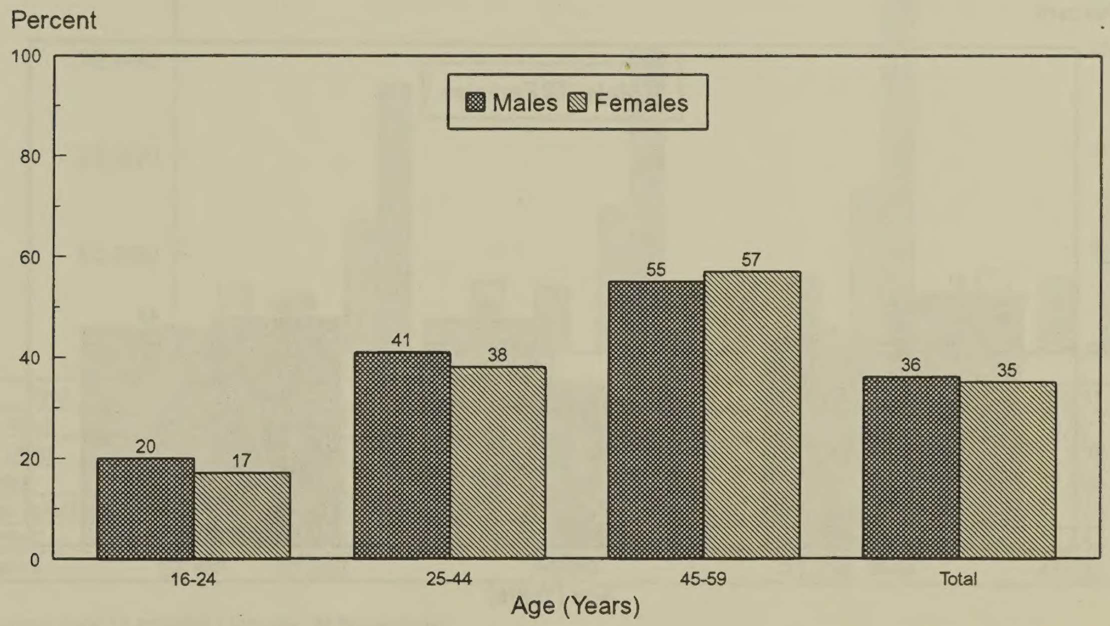
Exhibit 4.3.2.6. Percent of Hamilton-Wentworth Residents Reporting ***Family Decision-Making****, by ***Age*** and by ***Gender***, 1990



*Family decision-making = answered "strongly agree" or "agree" to **"We are able to make decisions about how to solve problems"**.

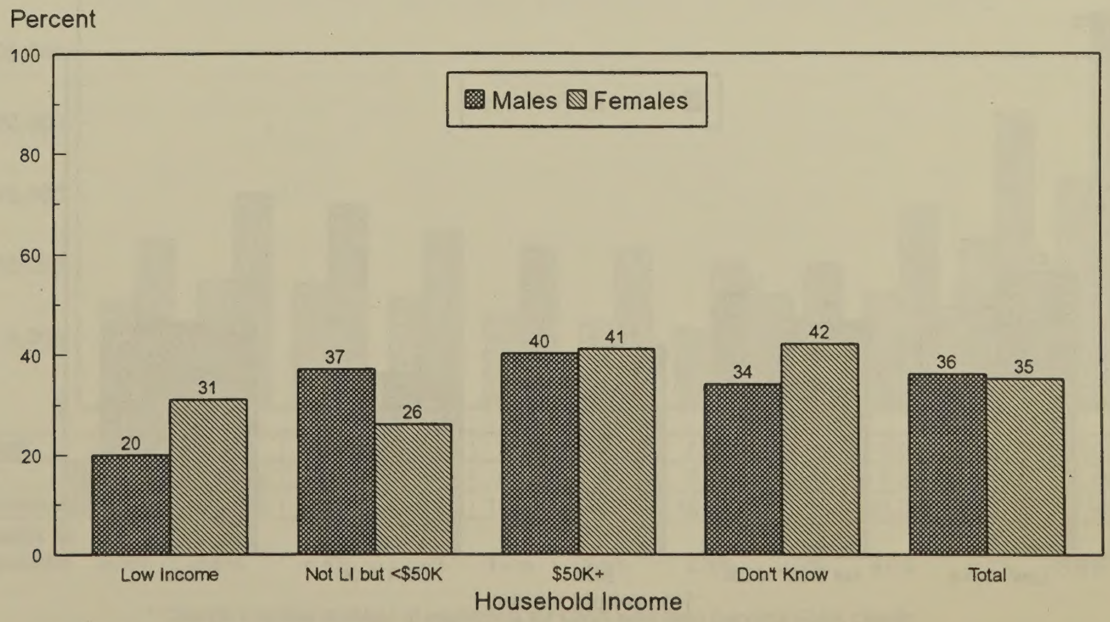
Source: Ontario Ministry of Health. 1990 Ontario Health Survey. 1992.

Exhibit 4.3.2.7. Percent of Hamilton-Wentworth Residents ***Aged 16-59*** Reporting ***High Participation*** in a ***Social Support System****, by ***Age*** and by ***Gender***, 1990



*High participation in a social support system = social support index for those under 60 years of age examined the number of friends and relatives the respondent felt close to, the amount of leisure time spent alone versus with others, satisfaction with social life, and the availability of a confidant and a helper.

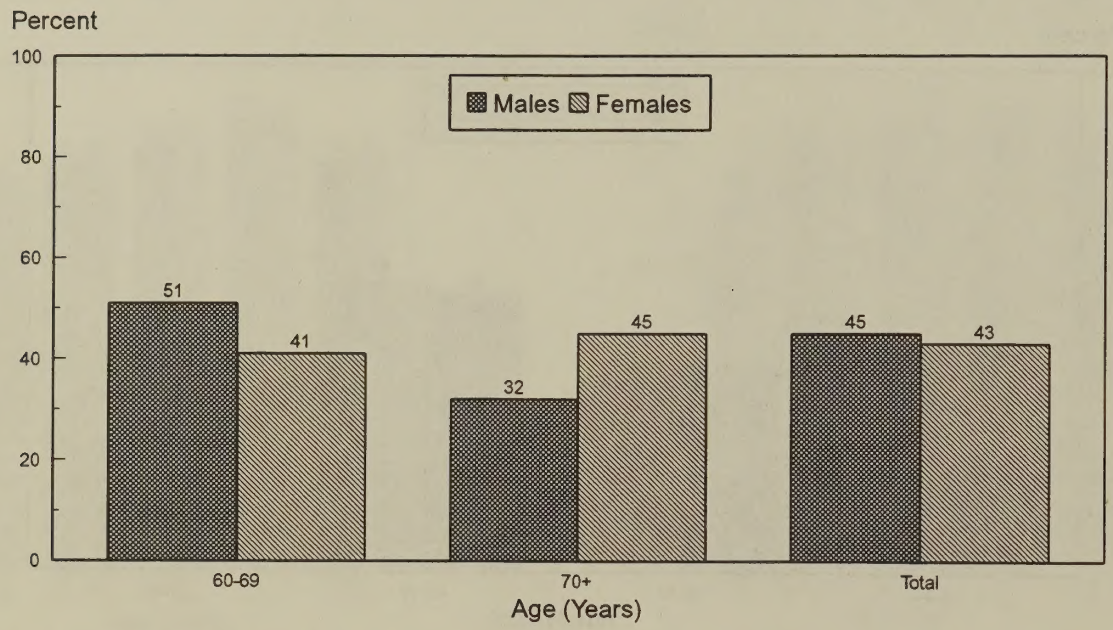
Exhibit 4.3.2.8. Percent of Hamilton-Wentworth Residents ***Aged 16-59*** Reporting ***High Participation*** in a ***Social Support System****, by ***Household Income***** and by ***Gender***, 1990



** Refer to Exhibit 1.1 for definitions of household income.

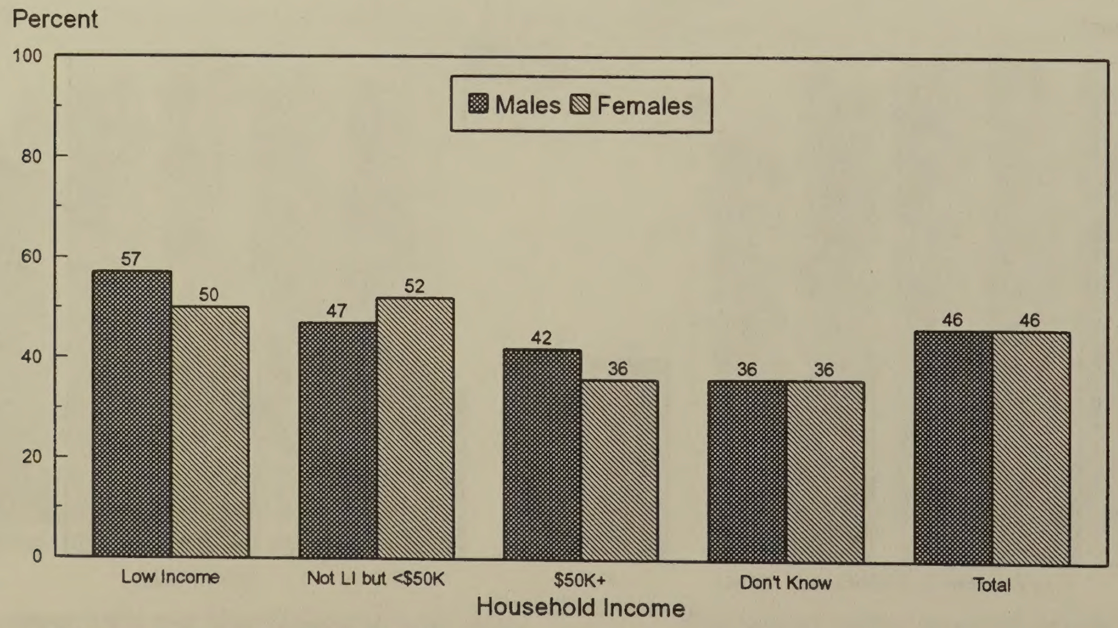
Source: Ontario Ministry of Health. 1990 Ontario Health Survey. 1992.

Exhibit 4.3.2.9. Percent of Hamilton-Wentworth Residents ***Aged 60+*** Reporting ***High Participation*** in a ***Social Support System****, by ***Age*** and by ***Gender***, 1990



*High participation in a social support system = social support index for those 60 years of age and over examined the number of friends and relatives the respondent felt close to, the amount of leisure time spent alone versus with others, satisfaction with social life, and membership in voluntary organizations.

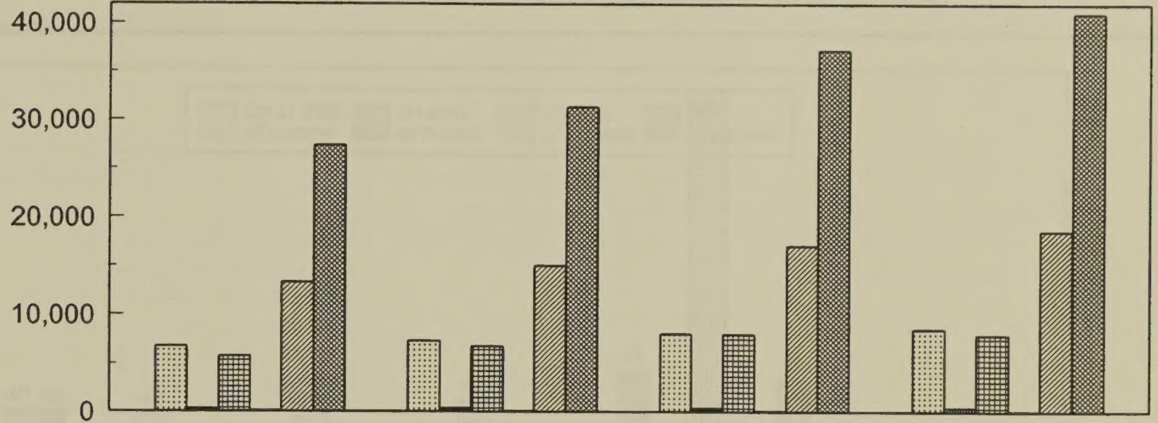
Exhibit 4.3.2.10. Percent of Hamilton-Wentworth Residents ***Aged 60+*** Reporting ***High Participation*** in a ***Social Support System****, by ***Household Income***** and by ***Gender***, 1990



** Refer to Exhibit 1.1 for definitions of household income.

Source: Ontario Ministry of Health. 1990 Ontario Health Survey. 1992.

Exhibit 4.3.3.1. Average Annual ***Number** of **Family Benefit Clients*** and ***Beneficiaries*** in Hamilton-Wentworth, 1990 to 1993



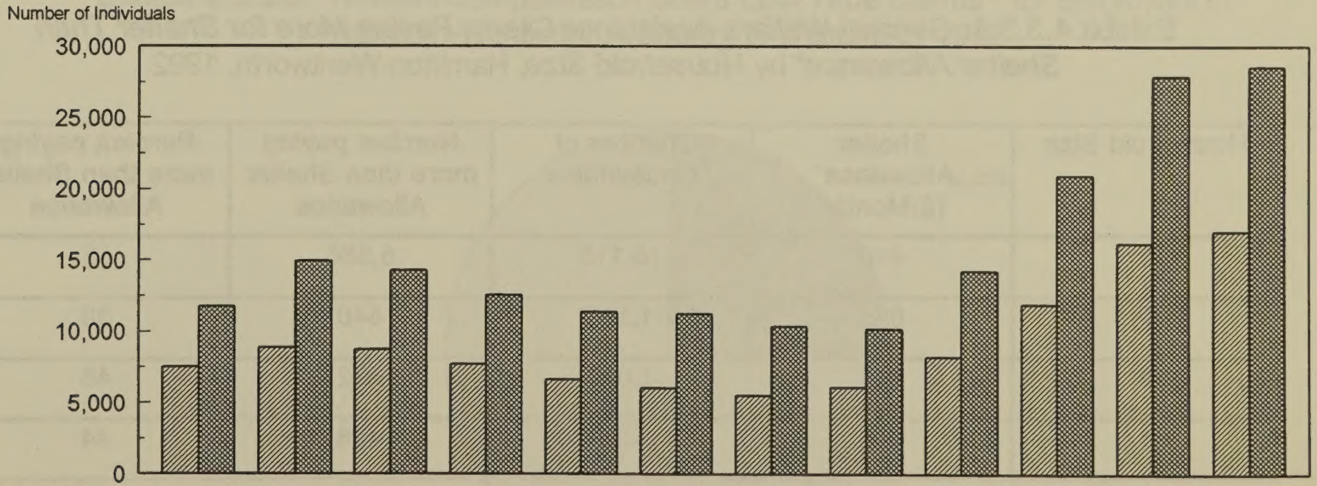
Year	1990	1991	1992	1993*
Disabled adult ░	6,746	7,334	8,041	8,521
Disabled child ▦	341	350	348	433
Lone parent ▦	5,715	6,726	7,981	7,908
Vocational rehabilitation ▩	68	76	87	90
Total clients** ▨	13,333	15,005	17,050	18,563
Beneficiaries ▩	27,369	31,326	37,230	41,022

*1993 average over 11 months (January to November)

**Columns to not sum to "Total Clients" since averages are based on 12 months.

Disabled child = children who are less than 18 years of age and severely disabled; **Vocational rehabilitation** = people who may be going back to school and are eligible for assistance based on their circumstances; **Beneficiaries** = total number of dependent children and adults who live on the financial assitance provided (excludes clients).

Exhibit 4.3.3.2. Average Annual ***Number** of **General Welfare Assistance Clients**** and ***Beneficiaries*** in Hamilton-Wentworth, 1982 to 1993

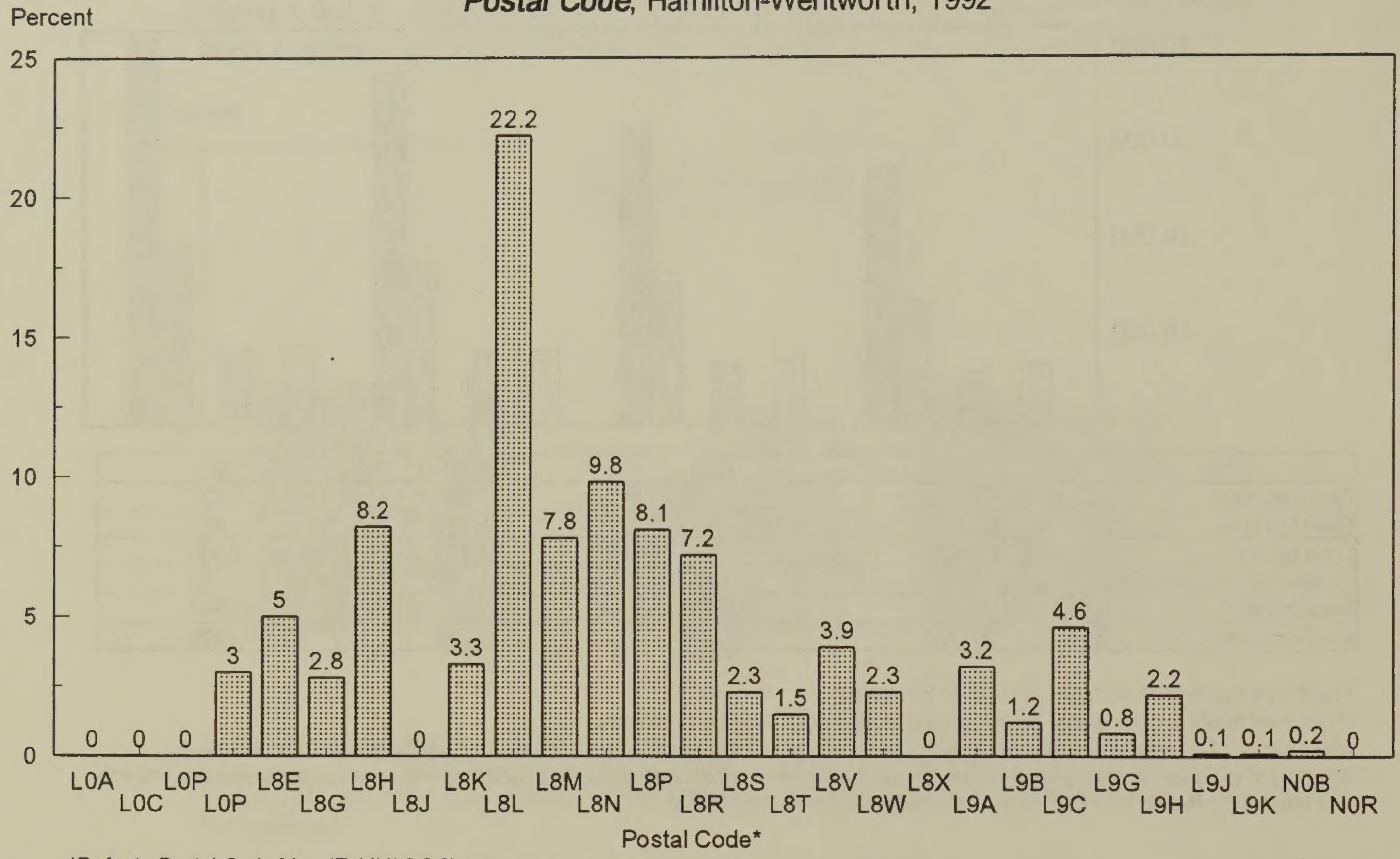


Year	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Clients ▨	7,540	8,888	8,717	7,702	6,614	6,009	5,542	6,052	8,224	11,888	16,190	17,009
Beneficiaries ▩	11,748	14,915	14,273	12,555	11,411	11,264	10,348	10,167	14,207	20,947	27,900	28,542
Beneficiaries as % of population	2.8%	3.6%	3.4%	2.9%	1.7%	2.6%	2.3%	2.2%	3.0%	4.4%	5.5%	5.7%

* **Clients** = actual number of applicants for GWA who then become GWA clients;
Beneficiaries = total number of dependent children and adults who receive GWA.
Beneficiaries as % of population = # beneficiaries / # total population X 100

Source: Social Planning & Research Council of Hamilton-Wentworth (Gloria DeSantis). Tracking Community Trends in Hamilton-Wentworth. 1993

Exhibit 4.3.3.3. Percent ***Clients Receiving General Welfare Assistance*** by ***Postal Code***, Hamilton-Wentworth, 1992



*Refer to Postal Code Map (Exhibit 2.2.3).

Exhibit 4.3.3.4. ***General Welfare Assistance*** Clients ***Paying More for Shelter Than Shelter Allowance**** by ***Household Size***, Hamilton-Wentworth, 1992

Household Size	Shelter Allowance* ($/Month)	Number of Households	Number paying more than Shelter Allowance	Percent paying more than Shelter Allowance
1	400	10,115	5,586	55
2	625	1,145	440	38
3	680	1,078	492	46
4	740	935	408	44
5	795	472	205	43
6+	825	253	91	36
Total		13,998	7,222	52

*Shelter allowance = Portion of General Welfare Assistance allocated for housing

Source: Regional Social Services Department (Rosemary Foulds). Profie of GWA Clients in Hamilton-Wentworth, February 1992.

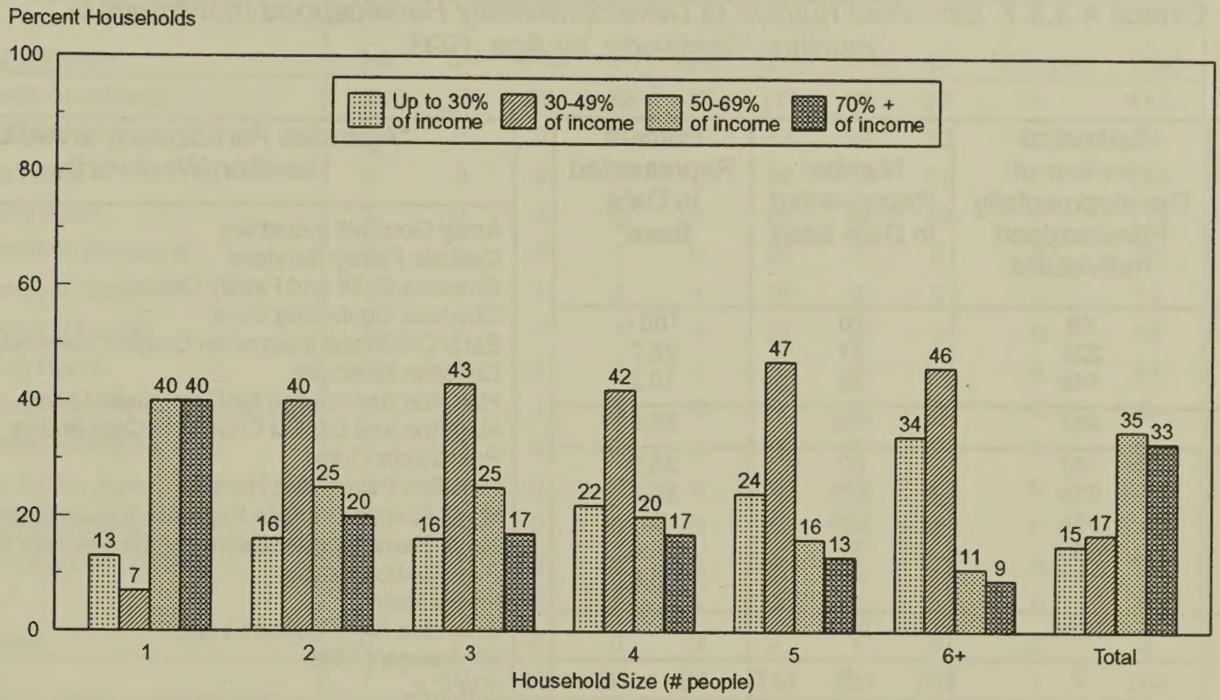


Exhibit 4.3.3.5. Percent of ***General Welfare Assistance Clients' Income Spent on Shelter*** by ***Household Size***, Hamilton-Wentworth, 1992

Source: Regional Social Services Department (Rosemary Foulds). Profie of GWA Clients in Hamilton-Wentworth, February 1992.

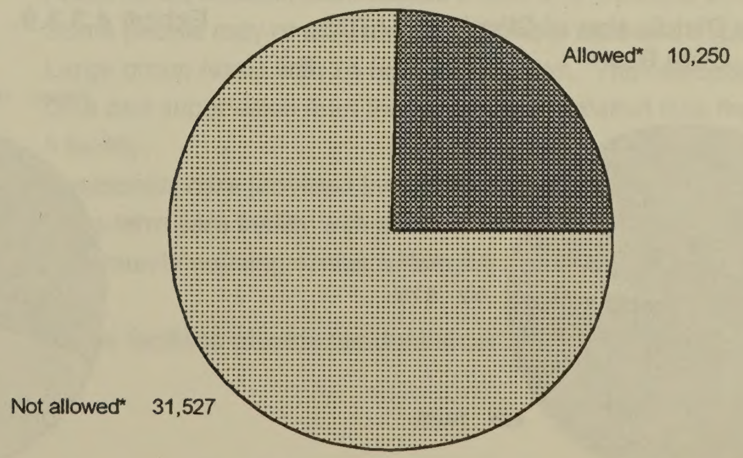


Exhibit 4.3.3.6. Workers Compensation Board ***Lost Time Claims**** for Employers in Hamilton-Wentworth, ***January to December 1992***

***Lost time claims** = claims which involved loss of time from work filed with Workers' Compensation Board for workplace injuries.
Allowed = lost time allowed claims.
Not allowed = claim abandoned, deemed not allowable, or no time lost from work.

Source: Workers Compensation Board, Communications Branch, 1-800-387-5595.

Exhibit 4.3.3.7. Estimated Number of ***Developmentally Handicapped Individuals*** in Hamilton-Wentworth, by ***Age***, 1993.

Age	Estimated Number of Developmentally Handicapped Individuals	Number Represented in Data Base	Percent Represented in Data Base*
0-5	69	70	100+
6-13	222	57	25.7
14-17	146	28	19.2
Total Children	437	155	35.5
18-21	167	60	35.9
22-34	638	323	50.6
35-54	554	338	61
55-64	160	51	31.9
65+	117	42	35.9
Total Adults	1636	814	
Age Unknown	0	1	
Total	2073	970	46.8

***Agencies Participating in AATD, Hamilton-Wentworth**

Amity Goodwill Industries
Catholic Family Services
Chedoke Child and Family Centre
Chedoke Continuing Care
Early Childhood Integration Support Services
Christian Horizions
Hamilton Association for Community Living
Hamilton and District Council of Cooperative Preschools Corp.
Hamilton Psychiatric Hosptial
H.-W. Roman Catholic Separate School Board
North Hamilton Association for the Mentally Retarded
Participation House
Rygiel Home
Salvation Army Lawson Lodge
St. Joseph's Villa
Y.W.C.A.

Exhibit 4.3.3.8. Age Distribution of Clients in AATD* Data Base

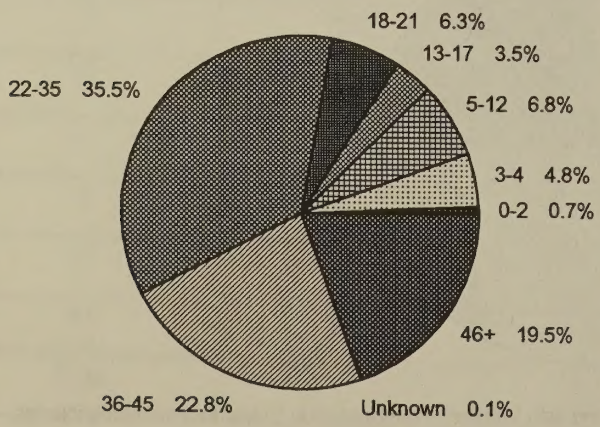
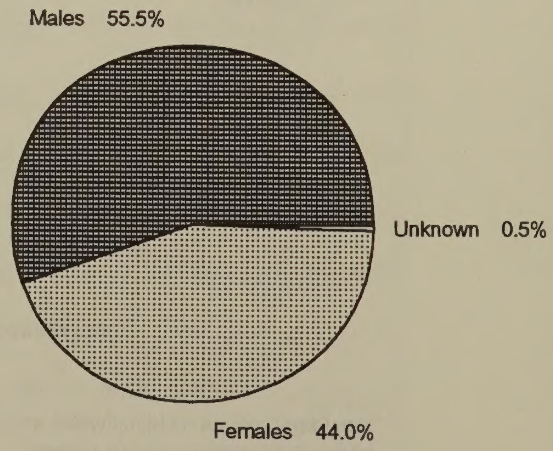


Exhibit 4.3.3.9. Gender of Clients in AATD* Data Base



Total = 970

Source: Houser A. Association of Agencies for Treatment and Development (AATD). Data Base for the Developmentally Handicapped: 1993 Update, Hamilton-Wentworth.

Exhibit 4.3.3.10. Developmentally Handicapped Individuals by Residential Setting and by Age, Hamilton-Wentworth, 1993

	Age (Years)									
Living Situation*	0-2	3-4	5-12	13-17	18-21	22-35	36-45	46+	Unknown	Total
Live with own family	7	46	63	22	37	144	63	27	1	410
Independent living	0	0	0	0	1	32	29	32	0	94
Group home	0	0	0	1	5	56	33	31	0	126
Lodging home	0	0	0	0	1	25	48	39	0	113
Schedule II: Satelite A	0	0	0	7	11	20	1	0	0	39
Schedule II: Satelite B	0	0	1	0	1	10	3	0	0	14
Schedule II Facility	0	0	0	1	0	25	16	5	0	48
Nursing Home	0	0	0	0	0	1	2	31	0	34
Residential home for special care	0	0	0	0	0	2	0	6	0	8
Psychiatric Institute	0	0	0	0	2	9	2	2	0	15
Home for the Aged	0	0	0	0	0	0	0	6	0	6
Schedule I Facility	0	0	0	0	0	3	20	7	0	30
Continuing Care Centre	0	0	0	0	0	9	3	2	0	14
Other	0	1	2	3	3	6	0	1	0	16
Unknown	0	0	0	0	0	2	1	0	0	3
Total	7	47	66	34	61	344	221	189	1	970

***Living Situation Definitions**

Live with own family	Includes natural and adoptive parents.
Independent living	Includes living with a spouse and/or children.
Group home	More than 4 persons who require assistance for some personal and soical needs provided by live-in house parents or staff.
Lodging home	Specially designed lodging/residence which, in addition to food and shelter, offers guidance in the activities of daily living, advice & information in a supervised setting.
Schedule II: Satelite A	Apartments, houses, townhouses where 3 or 4 people live with 24 hour attendants. Some people may or may not need 24 hour care and supervision.
Schedule II: Satelite B	Large group home with 24 hour supervision. The residents usually require more care and supervision than those in Program A, but less than those in the Schedule II facility.
Schedule II Facility	Residential care provided by a transfer payment agency.
Nursing Home	Long-term care facility with nursing staff.
Residential home for special care	Community housing similar to lodging homes but monitored by Homes for Special Care
Psychiatric Institute	These facilities provide residential services for the elderly and extended nursing care.
Schedule I Facility	
Continuing Care Centre	

Source: Houser A. Association of Agencies for Treatment and Development (AATD). Data Base for the Developmentally Handicapped: 1993 Update, Hamilton-Wentworth.

Exhibit 4.3.3.11. Estimated Number of Hamilton-Wentworth Residents with a Developmental Handicap, by Age and by Gender, 1993

	1991 Population			Percent	Estimate Number with Devlopmental Handicap		
Age	Male	Female	Total	Prevalence	Male	Female	Total
0-5	15,337	14,533	29,870	0.23	35	34	69
6-13	23,955	23,227	47,182	0.47	113	109	222
14-17	11,186	10,903	22,089	0.66	74	72	146
Subtotal	50,478	48,663	99,141		222	215	437
18-21	11,951	11,531	23,482	0.71	85	82	167
22-34	45,524	48,297	93,821	0.68	310	328	638
35-54	55,312	57,683	112,995	0.49	271	283	554
55-64	20,397	21,657	42,054	0.38	78	82	160
65+	25,769	35,824	61,593	0.19	49	68	117
Subtotal	158,953	174,992	333,945		793	843	1,636
Total	209,431	223,655	433,086		1,015	1,058	2,073

Exhibit 4.3.12. Percent of Developmentally Handicapped AATD* Clients 16 Years and Over** Who Report Life Skills Ability, 1993

Life Skill	Can complete independently	Can complete with ongoing monitoring	Requires special equipment	Requires verbal assistance	Cannot do task	Not specified
Money management	9.3	23.8	5.9	12.3	45.6	3.3
Grocery shopping and meal preparation	8.9	20.3	10.0	13.5	41.8	5.5
Home management (laundry, cleaning)	14.1	19.9	8.4	17.0	35.4	5.1
Community awareness	25.8	17.1	7.0	11.5	32.9	5.6

** Life skills questions asked only to clients 16 years and older, thus, total = 799.

*Source: Houser A. Association of Agencies for Treatment and Development (AATD). Data Base for the Developmentally Handicapped: 1993 Update, Hamilton-Wentworth.

Exhibit 4.3.3.13. ***Emergency Food Centres*** in Hamilton, 1993

Organization Name	Number of No Charge Food Store Clients	Number of Shelter Clients	Total Number of Meals Served	Other Services
Mission Services of Hamilton Contact: Thomasina Hansen	5,500 **families/year** approx. 50% singles average 2.7 kids/family	7,200/year supper & breakfast served	9,890 lunches	
Neighbour to Neighbour Centre Contact: Natalie Manoukian	**11,197 visitations** in 1993			650 families provided with Christmas hampers (food & toys) -also resource counseling, "Stepping Beyond Today", and Garden Program
St. Matthew's House Contact: Bill Wier	**1993 totals:** 19,217 request for emergency food assistance (average: 1,600 people/month) **Nov. 1993**: 1,958 served 958 single individuals; 479 one parent families (964 children); 313 two parent families (717 children); 115 couples			-extra food, gifts, toys at Christmas to 1,020 families, couples and single seniors
The Salvation Army Contact: Major Lloyd Boone	**1993 totals:** 8,466 grocery transactions from supplies; 16 grocery vouchers	Men's Hostel: approx. 200 meals served/day (residents & drop-in clients)		**1993** assistance to: 4,704 families (2,283 single parent) 5,247 single adults (1,375 single women) 8,114 children -also numerous other services including suicide crisis line, etc.
Wesley Urban Ministries Contact: Paul Johnson	**April to Dec. 1993:** 11,759 persons served daily average = 70.4 people % of clients children = 37%		Lunch served 6 days/week: **April to Dec. 1993:** 30,993 persons served daily average = 137.7 people Dinner served once/week: **April to Dec. 1993:** 5,746 persons served daily average = 151.2 people	No charge clothing store **April to Dec. 1993**: 18,345 persons served daily average = 109.9 people (35% children)
Good Shepherd Centre Contact: Tom Chire	**1993 totals**: 18,995 clients	Men: 5,340 Women: 6,633 Teens: 4,258	79,126 hot meals served	
Inasmuch House Contact: Carolyn Weber		417 women 358 kids (under 16)	2,325 (3 meals / day)	25 Christmas hampers to former residents (family-sponsored); donations room - self-serve clothing and household items

Note: This is an area of the Fact Book which requires further development; indicators included here are preliminary (not exhaustive list of services available, inconsistent reporting, etc.); sources should be contacted for clarification.

Source: Information provided by contact person listed under each agency, January and March 1994.

Exhibit 4.3.3.14. ***Self Help Groups*** in Hamilton-Wentworth, 1992

- self-help, support, or mutual aid groups are defined as groups of people who get together on the basis of a common experience to share information, situations, or problems, and who offer each other emotional and practical support based on the unique perspective available only to those who have shared these experiences (Dessau, 1991).

- groups are run by and for their members; professionals may participate in the process at the request and sanction of the group and remain in a consultative role

- non-formal nature of self-help makes them difficult to count - as of June 1992, there were 138 groups in Hamilton-Wentworth but this number changes frequently (see Exhibit 4.3.3.5 for a crude breakdown of groups into topical categories).

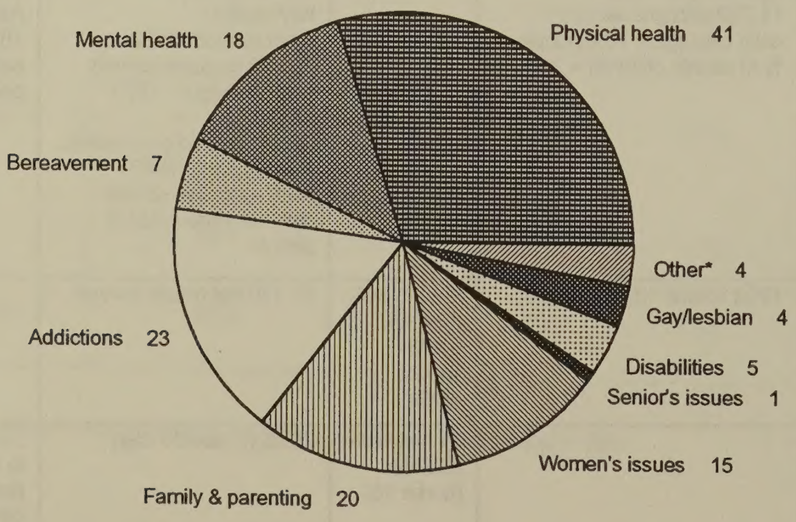
-activities include discussion, sharing of information and experiences, and other activities that promote mutual support and empowerment

- groups do not charge participants, although a nominal donation may be requested to cover expenses

-in 1992, the Social Planning and Research Council helped to establish the Self-Help Center at 255 West Avenue North, 522-7353

Source: Dessau L. A Report on the State of Self Help in Canada. Canadian Council on Social Development. 1991.

Exhibit 4.3.3.15. ***Self Help Groups*** in Hamilton-Wentworth, by ***Category of Group***, 1992



Total number of groups =138

*Other = self-help groups pertaining to unemployment, poverty, and offenders.

Source: Community Information Service, Hamilton-Wentworth. Inventory of Self-Help Support Groups In Hamilton-Wentworth. June 1992.

Exhibit 4.3.3.16. Recreation Centre and Arena Memberships For City of Hamilton Facilities, by Recreation Centre and Arena, 1989 to 1991.

Facility	Family			Single Parent			Adult			Youth			Child			Senior or Disabled			Total		
	'89	'90	'91	'89	'90	'91	'89	'90	'91	'89	'90	'91	'89	'90	'91	'89	'90	'91	'89	'90	'91
Recreation Centre																					
Bennetto	81	58	55	-	-	-	71	53	48	75	54	488	347	300	-	33	54	46	607	519	652
Central Memorial	105	134	81	-	-	14	141	105	82	44	36	248	474	335	-	234	167	142	1003	777	567
Dalewood	340	236	248	-	-	23	315	245	252	87	64	695	501	550	-	118	94	105	1361	1189	2215
Hill Park	351	303	304	-	-	31	163	207	236	1185	974	1373	-	-	-	134	147	213	1891	1631	2157
Huntington Park	252	221	167	-	-	11	146	107	88	104	74	886	1014	1083	-	114	132	191	1630	1617	1356
"Pinky" Lewis	217	199	216	-	-	26	267	210	170	129	49	388	201	220	-	542	449	468	1356	1127	1268
Ryerson	262	202	230	-	-	-	252	205	177	481	655	499	-	-	-	143	59	147	1138	1151	1053
Scott Park	105	63	52	-	-	9	54	57	33	46	60	330	345	300	-	62	50	50	621	530	474
Sir Allan MacNab	665	582	567	-	-	47	292	257	268	179	841	930	1489	1491	-	426	361	423	3051	2775	3235
Sir Wilfrid Laurier	175	128	128	-	1	36	77	70	97	92	67	665	688	529	-	103	89	132	1058	884	1036
Sir Winston Churchill	252	155	156	-	2	23	191	191	162	289	63	641	671	490	-	198	106	180	1601	1007	1162
Westmount	213	169	205	-	-	24	177	126	145	167	68	1001	1119	792	-	100	153	103	1776	1308	1478
Arena																					
Coronation	171	168	186	-	-	30	75	52	75	24	29	116	53	65	-	2	10	8	325	324	415
Eastwood	5	11	17	-	-	2	8	5	8	0	3	65	19	18	-	4	4	3	36	41	95
Inch Park	119	89	143	-	-	14	29	13	19	50	24	383	232	204	-	14	8	14	444	404	573
Lawfield	40	-	22	-	-	3	4	-	6	12	-	25	28	-	-	8	-	3	92	-	59
Mountain	48	136	374	-	-	47	32	24	213	18	26	-	43	25	45	18	18	104	159	229	869
Parkdale	27	33	62	-	-	9	8	17	16	203	733	78	146	309	-	4	2	3	388	434	468
Rosedale	22	20	34	-	-	15	4	1	3	8	1	34	13	8	-	18	13	9	65	43	80
Scott Park	22	12	27	-	-	15	5	9	18	5	5	88	135	44	-	3	4	1	203	75	139

Source: The Corporation of The City of Hamilton, Department of Culture & Recreation. Annual Report 1991.

4.3.4. Social Problems

Exhibit 4.3.4.1. Criminal Offences* in Hamilton-Wentworth, 1986-1991

Offence	1986	1987	1988	1989	1990	1991**	1992***
Homicides	12	7	11	7	10	11	9
Attempted Murder	5	12	0	4	4	9	5
Abductions	13	25	25	24	18	28	26
Sexual Offences	34	37	524	536	485	599	685
Assault	4,597	4,991	4,319	4,799	4,723	4,889	5,183
Robbery	237	314	270	303	367	460	461
Housebreaking	2,943	3,315	3,399	3,004	3,577	3,729	2,535
Other Break and Enter	1,803	1,908	2,056	2,054	2,524	2,732	3,553
Theft - Motor Vehicle	1,268	1,474	1,615	1,553	1,928	2,179	2,618
Theft over $1000	1,180	1,292	1,471	1,780	2,093	2,329	2,843
Theft under $1000	13,713	13,634	13,271	13,456	15,067	15,287	14,092
Possession of Stolen Goods	261	201	156	156	196	262	245
Fraud	1,853	2,309	2,387	2,432	2,348	1,957	1,624
Prostitution	50	110	124	166	124	247	314
Narcotics and Federal Drug Act	752	913	1,321	1,034	937	687	746
Gaming and Betting	6	20	6	13	11	7	NR
Possession of Offensive Weapons	217	218	261	234	197	236	230
Other Criminal Code	11,082	12,150	12,086	12,782	13,885	15,016	14,364
Federal Statutes	21	20	20	33	40	73	NR
Provincial Statutes	4,551	5,527	5,374	4,642	3,614	3,273	2,587
Municipal By-Laws	106	135	211	251	136	687	91
Total	44,704	48,612	48,907	49,263	52,284	54,697	52,211

*Criminal offences included in table are actual offences (reported offences minus unfounded incidents).

Source: Hamilton-Wentworth Regional Police Service. 1990 Statistical Report, 1991.
** Hamilton-Wentworth Regional Police Service. Annual Report 1991.
*** Hamilton-Wentworth Regional Police Service. Annual Report 1992. Note NR = not reported.

Exhibit 4.3.4.2. Spousal Assaults* Reported to Police, Hamilton-Wentworth, 1990 to 1992.

	1990			1991			1992		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
Occurences			**1199**			**1159**			**1416**
Charges laid by police			826			896			1177
Charges not laid by police			343			251			237
Charges laid by victim			30			12			2
Reason charges not laid			**343**			**251**			**237**
Offence alleged - no probable grounds			173			137			162
Victims request			170			114			75
Types of charges laid	**595**	**52**	**647**	**590**	**76**	**666**	**776**	**78**	**854**
Assault	82	13	95	67	13	80	105	22	127
Assault/Weapon/Causing Bodily Harm	6	1	7	4	1	5	7	3	10
Threatening	36	0	36	61	0	61	220	10	230
Other	64	2	66	100	4	104	133	4	137
Weapons used			32			15			51
Repeat offenders (if known to police)			2			0			11
Plea									
Guilty			377			444			667
Guilty - Reduced Charge			20			23			15
Not Guilty			412			622			660
Dispositions									
Guilty			480			569			758
Not guilty			308			504			580
Withdrawn by Crown			237			457			482
Reason for withdrawal									
Requested by victim			15			41			18
Victim refused to proceed			8			12			23
Victim failed to appear			49			81			92
Accused receiving counselling			3			2			4
Peace Bond			96			126			99
No reason indicated / Other			66			195			247
Sentencing									
Absolute discharge			6			10			1
Conditional discharge			23			31			23
Suspended sentence			27			34			32
Suspended sentence and fine			0			1			1
Fine and probation			89			77			11
Jail and probation			51			47			144
Jail and fine			2			4			12
Peace Bond			15			93			197
If Jail Only									
Under 1 month			30			37			45
1 - 3 months			36			48			37
4 - 6 months			10			10			13
Over 6 months			1			3			1
If Fine Only									
Under $100			3			6			5
$101 - $200			44			42			61
$201 - $300			54			52			60
Over $300			32			40			24

*'Spousal assault = violence directed by one person towards another person with whom he or she lives, or has lived, whether or not the relationship ha received legal sanction as a marriage.

Source: Hamilton-Wentworth Regional Police. Annual Report (1990 through 1992) to the Ministry of the Solicitor General. Hamilton-Wentworth Regional Police Services. (personal communication: Sgt. R. Buck).

Exhibit 4.3.4.3. Child Abuse Cases Reported to Police, Hamilton-Wentworth, 1992 and 1993

New Cases

Month	1992			1993		
	Physical	Sexual	Total	Physical	Sexual	Total
January	10	24	34	23	24	47
February	18	30	48	17	34	51
March	18	26	44	24	35	59
April	18	42	60	22	19	41
May	12	29	41	22	28	50
June	16	27	43	29	18	47
July	14	34	48	12	18	30
August	15	25	40	12	32	44
September	14	19	33	9	23	32
October	15	33	48	16	15	31
November	10	28	38	17	18	35
December	15	27	42	11	27	38
Year Total	175	344	519	214	291	503

Clearances

Charge Status	1992			1993		
	Physical	Sexual	Total	Physical	Sexual	Total
Unfounded			126			95
Otherwise			130			93
Uncleared			25			8
Outstanding			85			202
Charges laid	45	108	153	46	59	105

Source: Hamilton-Wentworth Regional Police Service. Child Abuse Branch, Two Year Comparative Analysis. (personal communication: Brenda Elkins).

Exhibit 4.3.4.4. Incidence of Paternity by Previous Partners In Households of Women Residing with a Male Partner and Children Less Than 18 Years of Age

Paternity of Residing Children	All Ages		Age < 30 Years		Age >= 30 Years	
	Shelter	Population Survey	Shelter	Population Survey	Shelter	Population Survey
Present partners' only	122	355	64	83	58	272
One or more stepchildren	44	28	22	8	26	20
Previous partners' only	27	15	12	4	15	11
Both previous and present partners'	21	13	10	4	11	9
% with stepchildren	28.2	7.3	25.6	8.8	31.0	6.8
Present partner's only vs One or more stepchildren:						
Chi Square (1 df)	43.5		8.9		35.3	
p	<0.0001		0.003		<0.0001	
Odd's Ratio	5.0		3.6		6.1	
95% Confidence Interval	3.0-8.3		1.5-8.5		3.2-11.7	

Exhibit 4.3.4.5. Prevalence of Partners' Assaults Upon Children of Clients of a Hamilton Shelter for Abused Women and Their Children, by Paternity

Paternity of co-residing children	Children Assaulted?		
	Yes	No	% Yes
Present partners' only	18	104	14.8
One or more stepchildren	15	33	31.3
Previous partners' only	8	19	29.6
Both previous and present partners'	7	14	33.3

Present partner's only vs One or more stepchildren:

Chi Square (1 df)	5.99
p	0.008
Odd's Ratio	2.6
95% Confidence Interval	1.2-5.8

Previous partner's only vs Present partner's only: p = 0.064 (Fisher's exact)

Both vs Present partner's only: p = 0.017 (Fisher's exact)

Source: Daly M, Singh L, Wilson M. Children Fathered by Previous Partners: A Risk Factor for Violence Against Women. Canadian Journal of Public Health. 1993; 84(3):209-210.

Exhibit 4.3.4.6. ***Number*** of ***Street Youth Served by Selected Agencies*** in Hamilton-Wentworth during ***July 1988*** and ***January 1989***

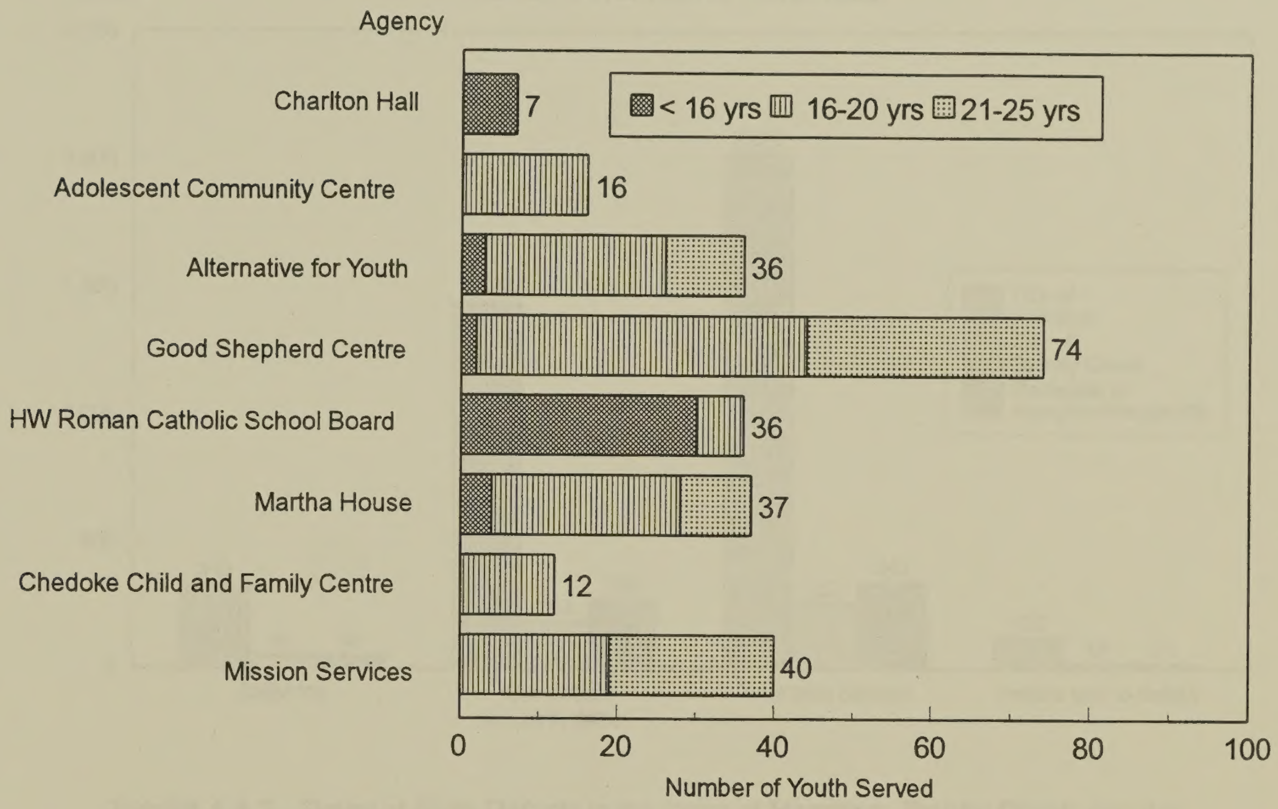


Exhibit 4.3.4.7. Highlights from Street Youth Document

-street youth defined as young people between 13 and 25 years who for various reasons become dependent on non-traditional sources for survivial and acceptance.

-street youth spend 70 to 80% of their time on the streets.

-approximately 350 street youth in Hamilton at any time.

-more frequent use of alcohol, cannabis and cocaine than other substances.

-prostitution and family abuse are problems identified by agencies serving street youth.

Source: Association of Agencies for Treatment and Development, Community Street Youth Task Force Report, January, 1990

Exhibit 4.4.1. ***Total Birth Defects*** in the Cities of ***Hamilton***, ***Stoney Creek***, and the ***Remainder of Hamilton-Wentworth, 1978-1988***

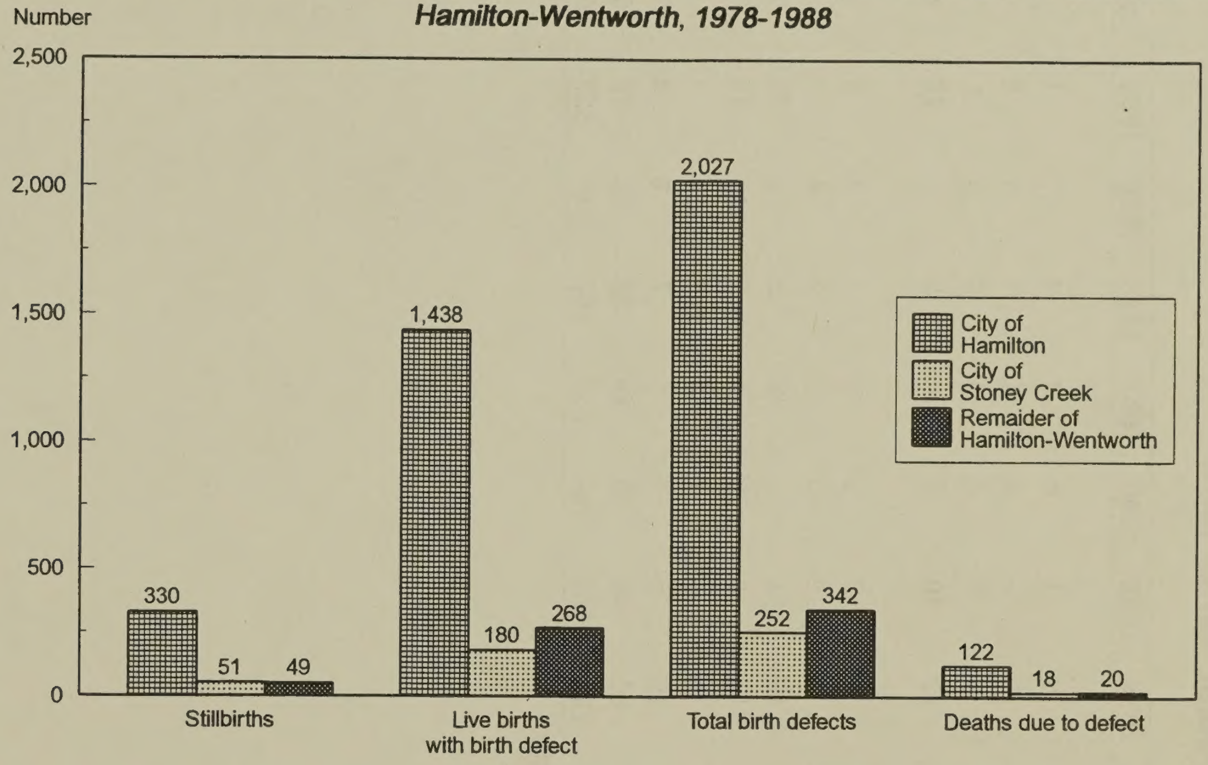


Exhibit 4.4.2. ***Types*** of ***Birth Defects*** in the Cities of ***Hamilton***, ***Stoney Creek***, and the ***Remainder of Hamilton-Wentworth, 1978-88.***

Birth Defect	City of Hamilton	City of Stoney Creek	Remainder of H-W
Central Nervous System	149	15	23
Anencephalus	31	5	4
Spina Bifida	43	3	8
Microcephalus	16	3	1
Hydrocephalus	47	1	5
Eye Anomalies	22	2	5
Congenital Heart	239	34	37
Ventricular Septal Defect	91	14	13
Atrial Septal Defect	49	7	9
Circulatory System	84	9	14
Pulmonary Artery	15	2	4
Respiratory System	54	9	13
Digestive System	275	29	42
Urinary System	85	13	13
Renal Agenesis	15	3	3
Hypospadias	88	13	17
Cleft Lip/Palate	89	9	19
Limb Reduction	16	0	1
Clubfoot	161	14	31
Ploydactyly	55	3	5
Down Syndrome	46	9	13
Total Births	48,175	6,426	9,813

Source: K Johnson, J Rouleau, C Stewart. Birth Defects Atlas of Ontario. Health and Welfare Canada: Birth Defects and Poisonings Section, 1993.

Exhibit 4.4.3. Selected Congenital Anomalies in Hamilton-Wentworth, 1978 - 1991

Anomaly	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Anencephaly	5	6	3	4	3	5	4	1	0	7	2	1	1	1
Spina Bifida	3	5	6	1	7	6	6	5	6	4	5	8	8	3
Hydrocephalus	7	6	5	5	3	5	3	7	3	3	6	4	5	2
Cleft Palate +/- Cleft Lip	6	16	13	9	10	16	12	10	7	10	8	7	16	14
Tracheal-Esophageal Fistual, Esophageal Atresia, Stenosis	2	1	2	3	2	3	2	2	2	1	1	1	3	2
Rectal and Anal Atresia, Stenosis	3	2	1	2	1	2	2	2	0	2	3	4	1	4
Hypospadias, Epispadias	7	13	15	12	19	17	15	4	4	10	3	9	14	11
Congenital Dislocation of Hip	28	26	37	15	27	14	11	6	3	4	2	10	15	9
Limb Reduction Anomalies	3	2	2	1	2	2	0	1	1	2	1	2	1	1
Down Syndrome	7	2	2	7	7	6	10	8	7	5	7	6	8	11
Selected Anomalies	71	79	86	59	81	76	65	46	33	48	38	52	72	58
Cases*	209	232	256	225	277	264	223	189	189	203	208	214	327	258

Source: Laboratory Centre for Disease Control, Ontario Congenital Anomalies Surveillance System, 1993.

* total number of infants with all anomalies during the time period reported

Exhibit 5.1.1. Number of Health Care Professionals* In Hamilton-Wentworth, 1992

Profession*	Number	Year (if not 1992)	Comments	Source
Ambulance Attendants	173		Figure refers to driver attendants only and includes full time, part time, and volunteers.	Ontario Ministry of Health, Emergency Health Services Branch.
Audiologists	12.2	1988	Full time equivalents.	Ministry of Health Rehabilitation Staff Surveys, 1985, 1988.
Chiropodists/Podiatrists	13		Data exclude non-practising chiropodists.	Active registrants with the Board of Regents of Chiropodists.
Chiropractors	66		Figure refers to place of business.	Active registrants with the Board of Directors of Chiropractic.
Dental Assistants	429	1991	Voluntary membership, therefore, figure does not reflect total inventory.	Ontario Dental Nurses and Assistants Association.
Dental Hygienists	157		Figure for region of residence, not region of employment.	Royal College of Dental Surgeons of Ontario.
Dental Technicians	16	1991	Figure includes inactive licensees.	Governing Board of Dental Technicians.
Dentists	237		Figure excludes those retired.	Royal College of Dental Surgeons of Ontario.
Denture Therapists	23		Includes inactive licensees and those working as denture technologists, hygenists, instructors, or technicians for orthodontists.	Governing Board of Denture Therapists of Ontario.
Dieticians	69	1991		Ontario Dietetic Association Membership Roster.
Health Care Aides			Not available at regional level.	
Homeopaths			Not available at regional level.	
Massage Therapists	35		Includes those unemployed but registered.	Active registrants with the Board of Directors of Masseurs of Ontario.
Medical Lab Technicians	553			Ministry of Health, Laboratory Services Branch Some technicians may work in two labs and be double-counted.
Medical Physicists	4		Excludes student and emeritus members.	Canadian Organization of Medical Physicists, membership roster.
Medical Radiation Technicians				Board of Radiological Technicians registry data.
Diagnostic	276			
Nuclear	28			
Therapy	56			

continued

Exhibit 5.1.1. Number of Health Care Professionals* In Hamilton-Wentworth, 1992 (continued)

Profession*	Number	Year (If not 1992)	Comments	Source
Midwives			Not available at regional level.	
Naturopaths	7			Board of Directors of Drugless Therapy.
Registered Nursing Assistants	1215		Includes only those employed as RNAs.	College of Nurses of Ontario registration data.
Occupational Therapists	128		Full time equivalents.	Ministry of Health Rehabilitation Staff Surveys, 1985, 1988.
Ophthalmic Dispensers	72		Includes non-dispensing opticians.	Board of Ophthalmic Dispensers.
Optometrists	30		Figure is for region of employment but in Ontario, 11 are not practising.	College of Optometrists of Ontario.
Ortho Technologists	2		Some may be practising without registration.	Canadian Society of Orthopaedic Technologies.
Osteopaths	0		Membership voluntary - could be under estimate.	Ontario Osteopathic Association.
Pharmacists	291		Figure is for place of business and excludes retired.	Ontario College of Pharmacists.
Physicians		1989	Taken from page 33 of Physician Human Resources in Ontario. See Exhibit 3.2.	Ontario Physician Human Resources Data Centre.
General Practioner / Family Practice	392			
All specialists combined	712			
Physiotherapists	238		Includes only those employed as physiotherapists and refers to place of employment.	Board of Directors of Physiotherapy registry data.
Prosthetists/Orthotists	11		Excludes those who are retired.	Canadian Board for Cetification of Prosthetists and Orthotists.
Psychologists	64		Excludes temporary registrants. Based on region of employment.	Ontario Board of Examiners in Psychology.
Respiratory Therapists	45		Membership voluntary - could be under estimate.	Respiratory Therapy Society of Ontario.
Speech Language Pathologists	57	1988	Full time equivalents.	Ministry of Health Rehabilitation Staff Surveys, 1985, 1988.

*Those professions regulated under the Regulated Health Professions Act.

Source: Ministry of Health, Health Human Resources Policy, Toronto, December 1993

Exhibit 5.1.2. Active Physicians in the Central West Planning Specialty and County*, 1992

Speciality	Brant	Dufferin	Haldimand-Norfolk	Halton	Hamilton-Wentworth	Niagara	Waterloo	Wellington	Central West
Family Practice / General Practice	89	34	59	341	407	300	282	126	1638
Family Practice/Emergency Medicine	1	0	1	10	14	7	9	2	44
Non-Specialists	1	0	0	8	25	1	2	6	43
Fellow	0	0	0	0	1	0	0	0	1
Anesthesia	7	1	1	23	46	20	21	8	127
Community Medicine	0	0	0	0	4	0	0	0	4
Public Health	0	0	0	0	0	0	0	0	0
Diagnostic & Therapeutic Radiology	0	0	0	1	1	0	0	0	2
Diagnostic Radiology	5	1	1	24	34	13	22	4	104
Emergency Medicine	0	0	0	5	7	0	6	3	21
Medical Genetics	0	0	0	0	0	0	0	0	0
Nuclear Medicine	1	0	0	2	2	0	2	0	7
Obstetrics and Gynecology	4	1	1	19	34	24	20	7	110
Occupational Medicine	0	0	0	1	1	0	0	0	2
Ophthalmology	5	0	1	10	26	14	9	5	70
Otolryngology	2	0	0	10	8	9	6	2	37
Pediatrics	4	1	0	21	50	19	13	5	113
Pediatric Cardiology	0	0	0	0	0	0	0	0	0
Physical Medicine and Rehabiliation	0	0	0	0	11	2	1	0	14
Psychiatry	7	0	2	27	88	13	17	21	175
Radiation Oncology	0	0	0	0	9	0	0	0	9
Therapeutic Radiology	0	0	0	0	1	1	0	0	2
Internal Medicine Total	9	4	2	53	179	53	45	16	361
Cardiology	1	0	0	5	15	3	2	1	27
Clinical Hematology	0	0	0	0	1	0	0	0	1
Clinical Immunology	0	0	0	0	3	1	0	0	4
Dermatology	1	0	0	7	9	7	6	1	31
Endocrinology	0	0	0	0	3	0	0	1	4
Gastroenterology	0	0	0	2	2	3	3	2	12
Geriatric Medicine	0	0	0	2	6	0	0	0	8
Hematology	0	0	0	3	6	1	2	0	12
Infectious Diseases	0	0	0	1	2	0	0	0	3
Internal Medicine	7	4	2	25	95	31	24	9	197

*Specialty = certified fellowship - refer to documentation following table.

continued on next page

Exhibit 5.1.2. Active Physicians in the Central West Planning Specialty and County*, 1992 (continued)

Specialty	Brant	Dufferin	Haldimand-Norfolk	Halton	Hamilton-Wentworth	Niagara	Waterloo	Wellington	Central West
Medical Oncology	0	0	0	0	5	2	0	0	7
Nephrology	0	0	0	0	1	1	1	0	3
Neurology	0	0	0	4	11	3	4	1	23
Respiratory Diseases	0	0	0	0	4	0	0	0	4
Respiratory Medicine	0	0	0	2	11	1	3	0	17
Rheumatology	0	0	0	2	5	0	0	1	8
Laboratory Medicine Total	4	0	2	16	28	15	14	3	82
General Pathology	2	0	2	7	7	11	9	3	42
Anatomical Pathology	1	0	0	3	15	4	3	0	26
Bacteriology	0	0	0	0	1	0	0	0	1
Hematological Pathology	0	0	0	2	1	0	1	0	4
Medical Biochemistry	0	0	0	3	0	0	0	0	3
Medical Microbiology	0	0	0	1	4	0	1	0	6
Neuropathology	0	0	0	0	0	0	0	0	0
Surgery Total	19	3	5	41	89	51	48	21	277
General Surgery	8	3	5	16	32	23	25	10	122
Cardiovascular and Thoraic Surgery	0	0	0	1	7	0	0	0	8
Neurosurgery	0	0	0	0	6	1	2	0	9
Orthopedic Surgery	5	0	0	11	21	13	10	5	65
Pediatric Surgery	0	0	0	0	1	0	0	0	1
Plastic Surgery	1	0	0	7	10	3	5	0	26
Thoracic Surgery	0	0	0	0	0	0	0	0	0
Urology	4	0	0	6	11	9	6	3	39
Vascular Surgery	1	0	0	0	1	2	0	3	7
Specialist Total	67	11	15	253	618	234	224	95	1517
Grand Total	158	45	75	612	1065	542	517	229	3243

*Specialty = certified fellowship - refer to documentation following table.

Source: Physicians In Ontario, 1992. Ontario Physician Human Resource Data Centre; Contact: Kathleen Clements, Neil Johnston, Faculty of Health Sciences

Notes to accompany Exhibit 5.1.2.

The Physician Registry has been designed to be the definitive source of physician information in Ontario. Multiple sources of data, including the Postgraduate Registry, provided the information required by the Physician Registry. In many cases, several data sources contained the same fields of information. Agreements to acquire data were negotiated with College of Physicians and Surgeons (CPSO), Ontario Ministry of Health (MOH), Ontario Medical Association (OMA), Royal College of Physicians and Surgeons of Canada (RCPSC) and Southam Communications Limited (SCL). In all cases, transfer of data to OPHRDC was predicated upon legally stringent agreements covering the confidentiality of data and the explicit purposes to which it may be put.

The report has been prepared from the Active Physician Registry by the staff of Ontario Physician Human Resources Data Centre (OPHRDC). The Registry is derived largely from CPSO data and records of the Ontario Health Insurance Plan (OHIP), but the data have been carefully screened and subjected to a number of processes to determine that the physicians concerned are "active". In effect, two physician registries were created. The "Objective" Active Physician Registry (Exhibit 3.2) uses only factual information such as actual certifications in order to report on physicians in Ontario. The "Qualitative" Active Physician Registry (not included in the Fact Book) relies upon various subjective sources of physician information, such as extensive telephone survey validations, and validation efforts from the Deans of the five Ontario medical schools.

The "rules" derived to govern entry of data in to the Active Registry (described in the following two sections) have been incorporated into algorithms which form the basis of the computer programs which will maintain the Registry in future.

The data presented in the OPHRDC's Physician Reports were prepared in the following way.

Record of licensees of the CPSO were carefully screened for anomalies and duplications. In addition, certain rules were followed whereby those physician who were on the CPSO list but were unlikely to be active were excluded. These rules include:

1) Removal of licensees with birth years prior to 1908.
2) Removal of those licensees with educational or short term licences.
3) Removal of "deceased" physicians.
4) Removal of those physicians not residing in Ontario.
5) Removal of those physicians with expired licences.

The "clean" CPSO file was then matched against OHIP demographic and billing data by CPSO licence number and surname, and any duplicated or suspicious matches carefully audited and explained using other data, or reference to the owners of the source data. The same grooming steps were applied to records from the OHIP physician demographic data as to the CPSO data.

A critical final step was the record-by-record reconciliation between the Ontario Postgraduate Medical Trainee Registry (also a product of the (OPHRDC) and the Active Physician Registry to eliminate any postgraduate medical trainees holding a general licence from the Active Physician Registry.

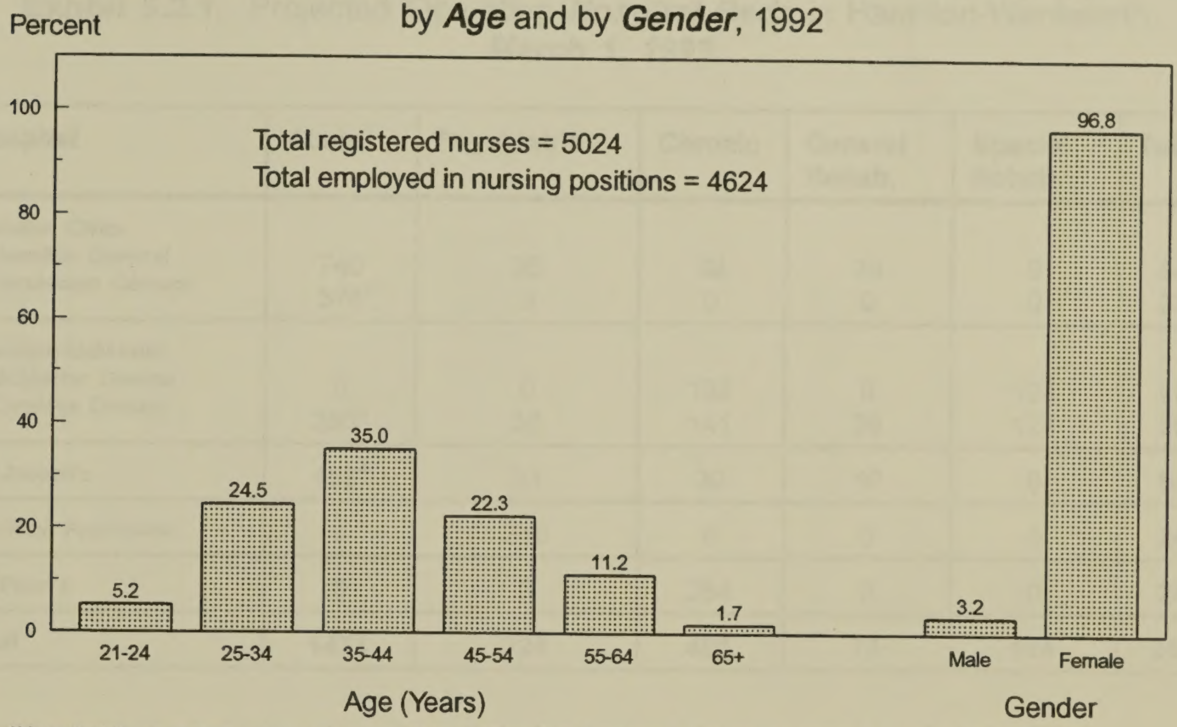
A number of secondary sources of data have been used to validate the Registry and in some cases to supplement the data used. This process helped identify a number of physicians potentially qualified for entry into the Active Registry, including:

1. Physicians on alternative funding plans and salaried physicians, as well as those practising in Health Service Organizations or Community Health Centres.
2. Physicians with hospital privileges.
3. Physicians employed by Provincial Psychiatric Hospitals.
4. Physicians practising within the Ontario Cancer Treatment and Research Foundation (OCTRF) plan.
5. Physicians employed by Workers Compensation Board.
6. Physicians certified in Emergency Medicine by the College of Family Physicians of Canada (CFPC).
7. Physicians with faculty appointments at Ontario medical schools.
8. Physicians employed by the Addiction Research Foundation.
9. Physicians appointed as Medical Officers of Health.
10. Physicians employed by the Underserviced Area Program.
11. Laboratory Medicine specialists who are listed by the Canadian Association of Pathologists (CAP).
12. Physicians certified by the Royal College of Physicians and Surgeons of Canada (RCPSC).
13. Telephone audits of practice location, specialty of practice, and activity status.

Some of these sources contained non-physicians, and so all candidates for inclusion in the Active Physician registry were verified as having current licences, and subjected to the same rules as listed above. Physicians who successfully met these criteria were then added to produce a total of 18,683 physicians in Ontario or 3,243 physicians in the Central-West health region. Exhibit 5.1.2. is for this later group of physicians.

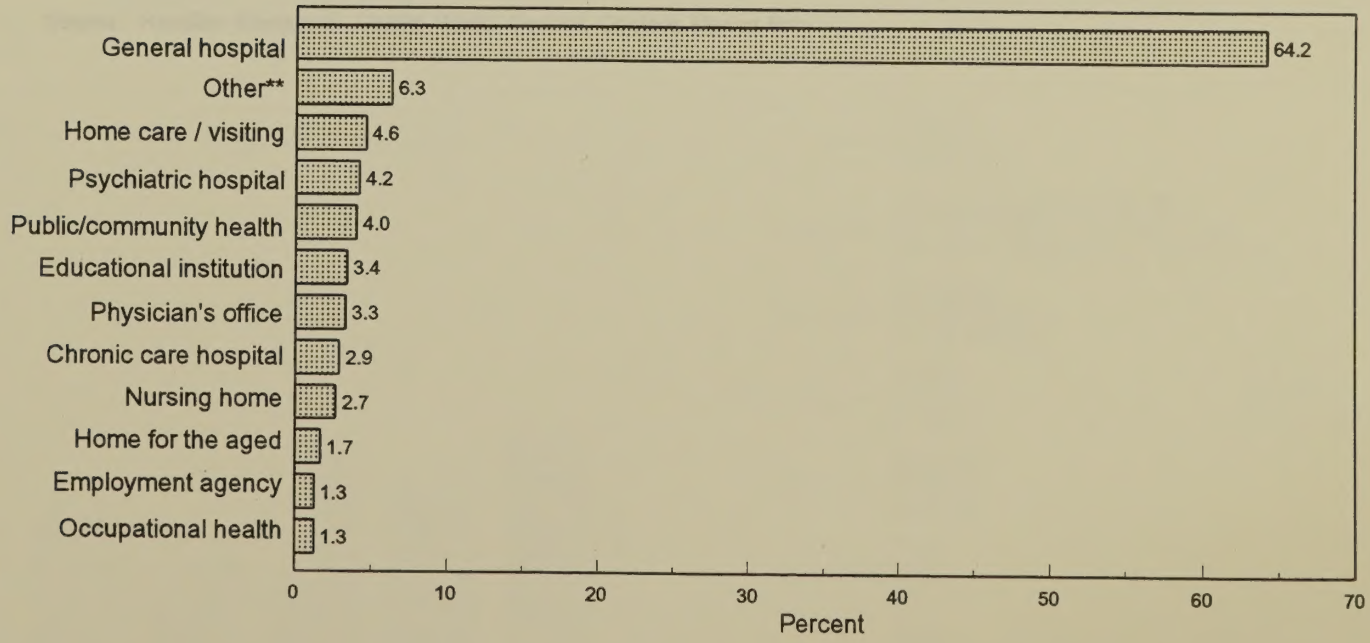
Source: Physicians In Ontario, 1992. Ontario Physician Human Resource Data Centre; Contact: Kathleen Clements, Neil Johnston, 1992.

Exhibit 5.1.3. *Registered Nurses Living* in Hamilton-Wentworth*, by *Age* and by *Gender*, 1992



*Note that the numbers represent nurses living in Hamilton-Wentworth and not necessarily working in the Region.

Exhibit 5.1.4. *Primary Place* of *Employment* for Registered Nurses Living in Hamilton-Wentworth, 1992



** Other = Rehabilitation hospitals (0.9%), and Other hospitals (0.7%), Community health centre (0.7%), Self-employed (0.4%), Retirement home (0.4%), Government or Association (0.2%), Nursing Stations (>0.1%), and Other (3.0%).

Source: Centre for Applied Health Research, University of Waterloo; Contact: Dr. Mike Sharratt
Data from College of Nurses Registration Database, 1992.

Exhbit 5.2.1. Projected Operating ***Hospital Beds*** in Hamilton-Wentworth, ***March 1, 1993***

Hospital	**Acute**[1]	**Psychiatric**	**Chronic**	**General Rehab.**	**Special Rehab.**	**Total**
Hamilton Civics						
Hamilton General	740	26	38	39	0	843
Henderson General	376[2]	0	0	0	0	376
Chedoke-McMaster						
McMaster Division	0	0	132	0	124	256
Chedoke Division	280[3]	25	141	26	124	596
St. Joseph's	453[4]	33	30	10	0	526
Hamilton Psychiatric	0	240	0	0	0	240
St. Peter's	0	0	284	0	0	284
Total	**1473**	**324**	**493**	**75**	**124**	**2489**

Notes:

1 Acute Care beds = medical, surgical, critical care, paediatrics, obstetrics.

2 Includes 27 Obstetrics.

3 Includes 41 Obstetrics.

4 Includes 56 Obstetrics (4 approved and not set up).

Source: Hamilton-Wentworth District Health Council; Contact: Marion Emo

Exhibit 5.3.1. ***Two or More Contacts*** with ***General Practictioners*** During the Past 12 Months, by ***Age***, Hamilton-Wentworth, 1990

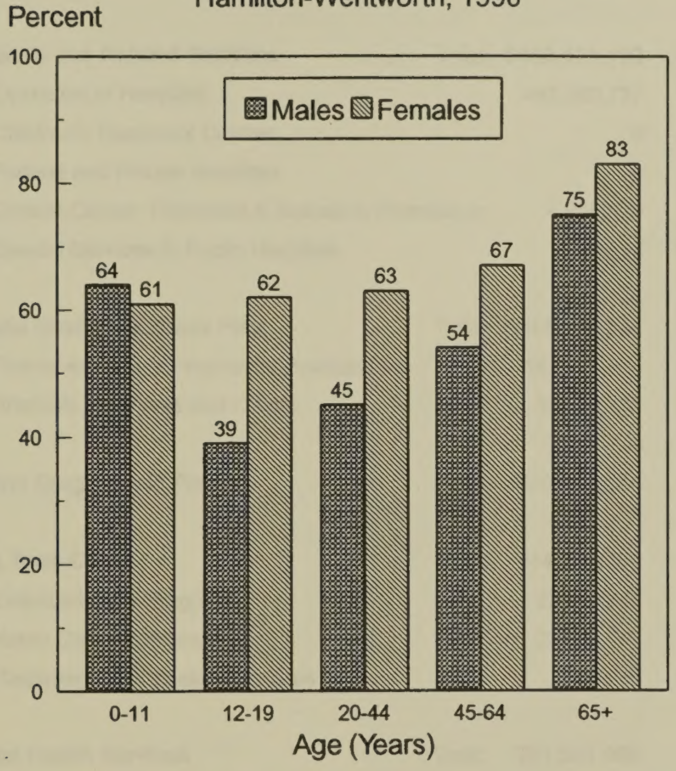
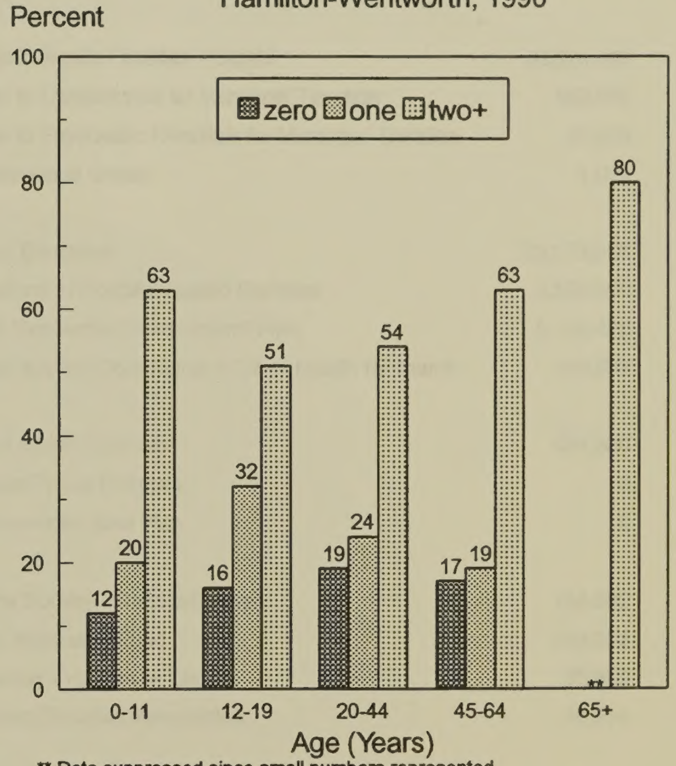


Exhibit 5.3.2. ***Number of Contacts*** with ***General Practioners*** During the Past 12 Months, by ***Age***, Hamilton-Wentworth, 1990



** Data suppressed since small numbers represented

Exhibit 5.3.3. ***One or More Contacts*** with ***Specialists*** During the Past 12 Months, by ***Age***, Hamilton-Wentworth, 1990

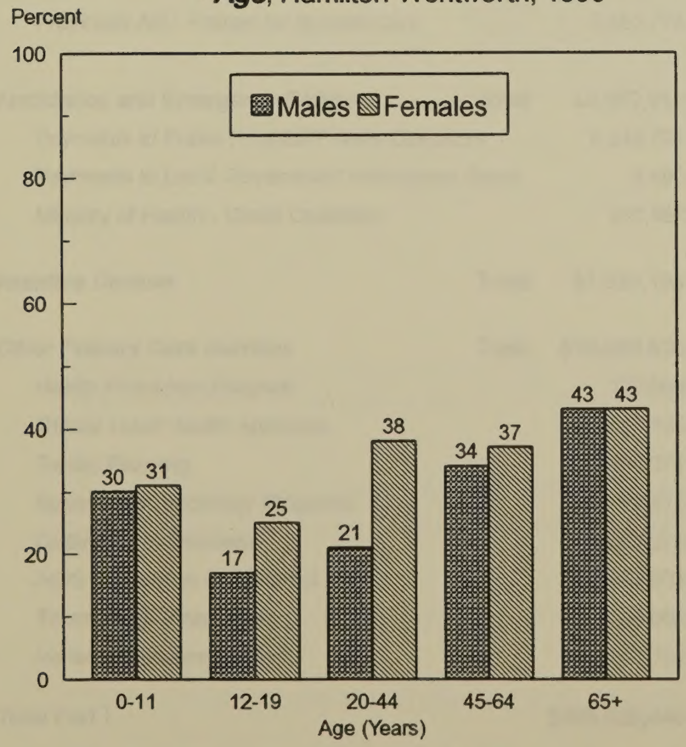
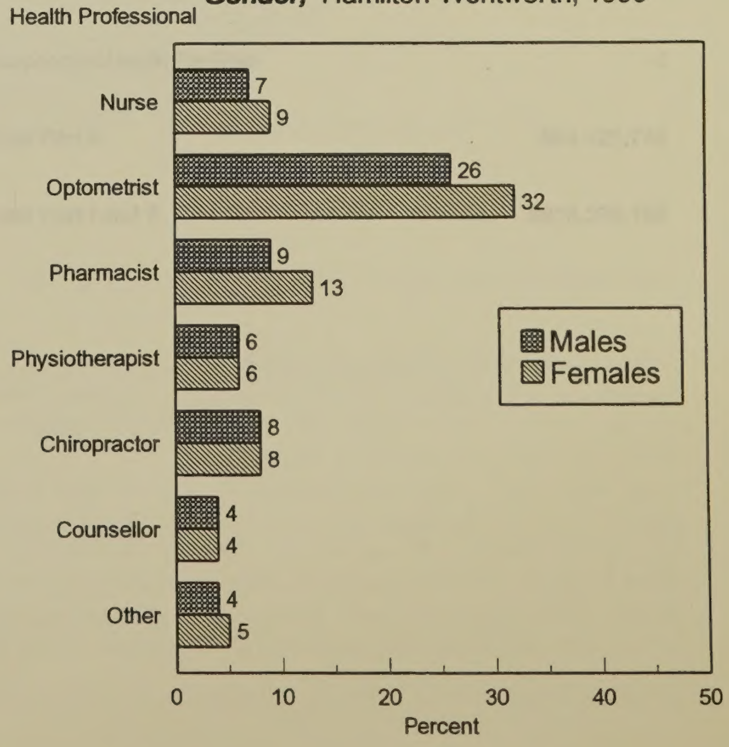


Exhibit 5.3.4. ***Contact with Selected Health Professionals*** During the Past 12 Months, by ***Gender,*** Hamilton-Wentworth, 1990



Source: 1990 Ontario Health Survey, Ontario Ministry of Health, 1992

5.4. Health Care Expenditures

Exhibit 5.4.1. Provincial Government Health Expenditures in Hamilton-Wentworth, 1990-1991

Part I:

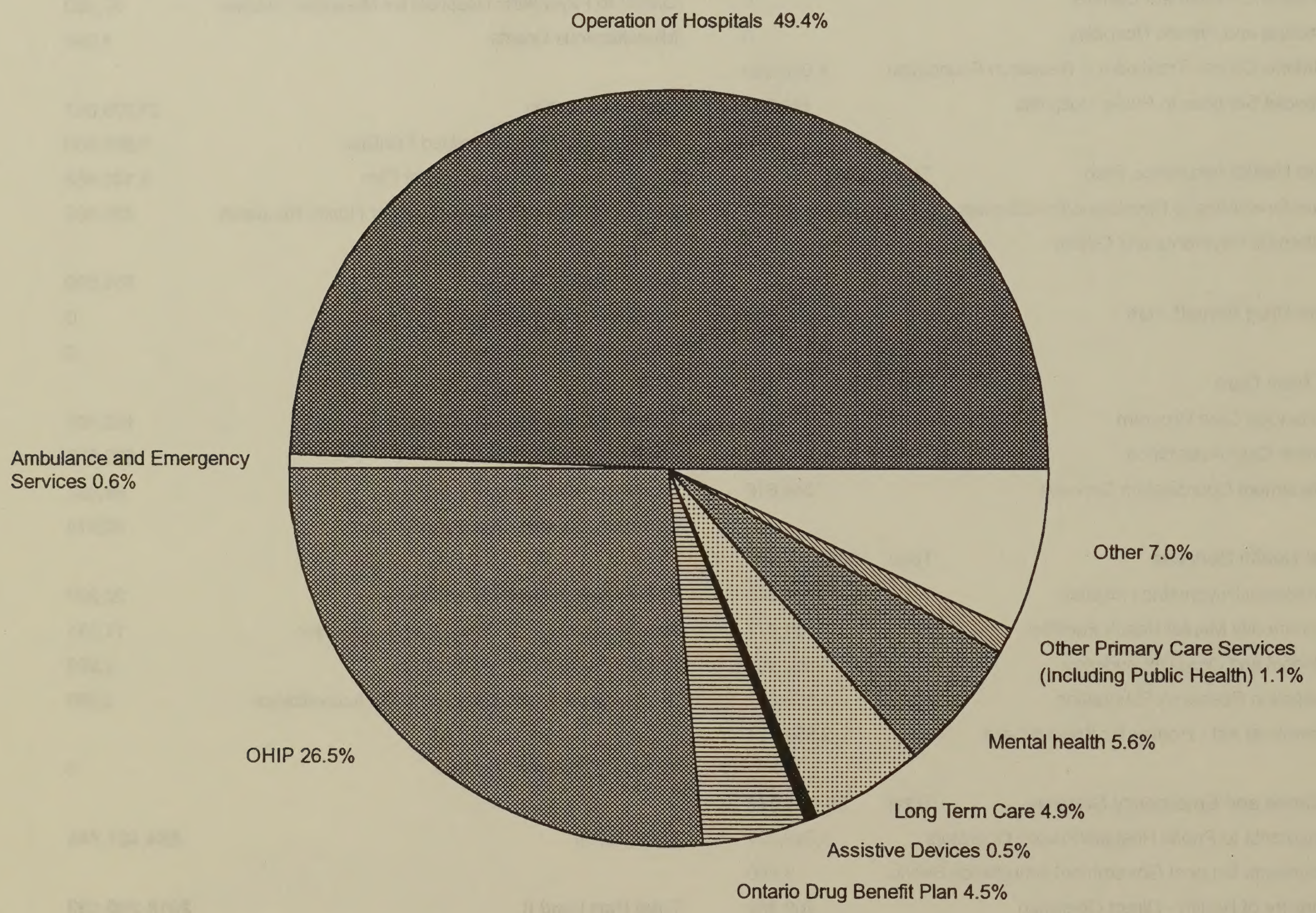
Hospitals and Related Facilities	**Total:**	**$453,421,169**
Operation of Hospitals		448,069,737
Children's Treatment Centres		0
Federal and Private Hospitals		0
Ontario Cancer Treatment & Research Foundation		4,910,829
Special Services in Public Hospitals		440,603
Ontario Health Insurance Plan	**Total:**	**$243,204,233**
Fee-for-service to Physicians/Practitioners		187,117,500
Alternate Payments and Others		56,083,733
Ontario Drug Benefit Plan	**Total:**	**$40,860,884**
Long Term Care	**Total:**	**$44,684,202**
Extended Care Program		22,770,615
Home Care Assistance		21,568,970
Placement Coordination Services		344,616
Mental Health Services	**Total:**	**$51,631,059**
Provincial Psychiatric Hospitals		41,384,343
Community Mental Health Facilities		3,854,477
Alcohol and Drug Dependency		1,969,785
Addiction Research Foundation		1,562,681
Provincial Aid - Homes for Special Care		2,859,774
Ambulance and Emergency Services	**Total:**	**$5,459,948**
Payments to Public Hospital/Private Operators		5,249,791
Payments to Local Government Ambulance Servic		9,690
Ministry of Health - Direct Operation		200,467
Assistive Devices	**Total:**	**$4,529,134**
Other Primary Care Services	**Total:**	**$10,080,820**
Health Promotion Program		139,064
Official Local Health Agencies		7,510,106
Family Planning		708,379
Speech and Audiology Programs		27,575
Outbreaks of Diseases		1,031,276
AIDS Prevention and Control		607,001
Tuberculosis Prevention		46,666
Venereal Disease Control		10,752
Total Part I		**$853,868,448**

Part II:

Grants to Health Facilities - Capital	29,924,420
Grants to Compensate for Municipal Taxation	182,593
Grants to Psychiatric Hospitals for Municipal Taxation	37,650
Miscellaneous Grants	1,034
Clinical Education	23,373,057
Operations of Hospital-related Facilities	3,808,960
Health Resources Development Plan	5,135,483
Clinical Applied Operational & Other Health Research	489,606
District Health Councils	534,890
Northern Travel Program	0
Underserviced Area Plan	0
Arthritis Society - Ontario Division	155,895
Health Innovation Fund	589,333
Laboratory Proficiency Testing	98,862
Canadian Diabetes Association	50,914
Ontario Mental Health Foundation	22,200
Association of Local Official Health Agencies	11,351
Ontario Public Health Association	2,509
Ontario Council - Community Health Accreditation	2,988
Independent Health Facilities	0
Total Part II	**$64,421,745**
Total Part I and II	**$918,290,193**

Source: Ontario Ministry of Health, Information, Planning & Evaluation Branch. Ontario Health Expenditures 1990-91. 1993.

Exhibit 5.4.2. *Provinicial* Government *Health Expenditures* in Hamilton-Wentworth, by *Services**, *1990-1991*



Total health expenditure in 1900-91 was $918,290,193.

*Data corresponds to that tabulated in Exhibit 5.4.1.

Operations of Hospitals = Chedoke-McMaster Hospitals, Hamilton Civic Hospitals, St. Joseph's Hospital, St. Peter's Hospital and the Ontario Cancer Treatment and Research Foundation.

OHIP = Physician services and their clinics.

Long Term Care = Extended Care Program, Home Care Assistance, Placement Coordination Services.

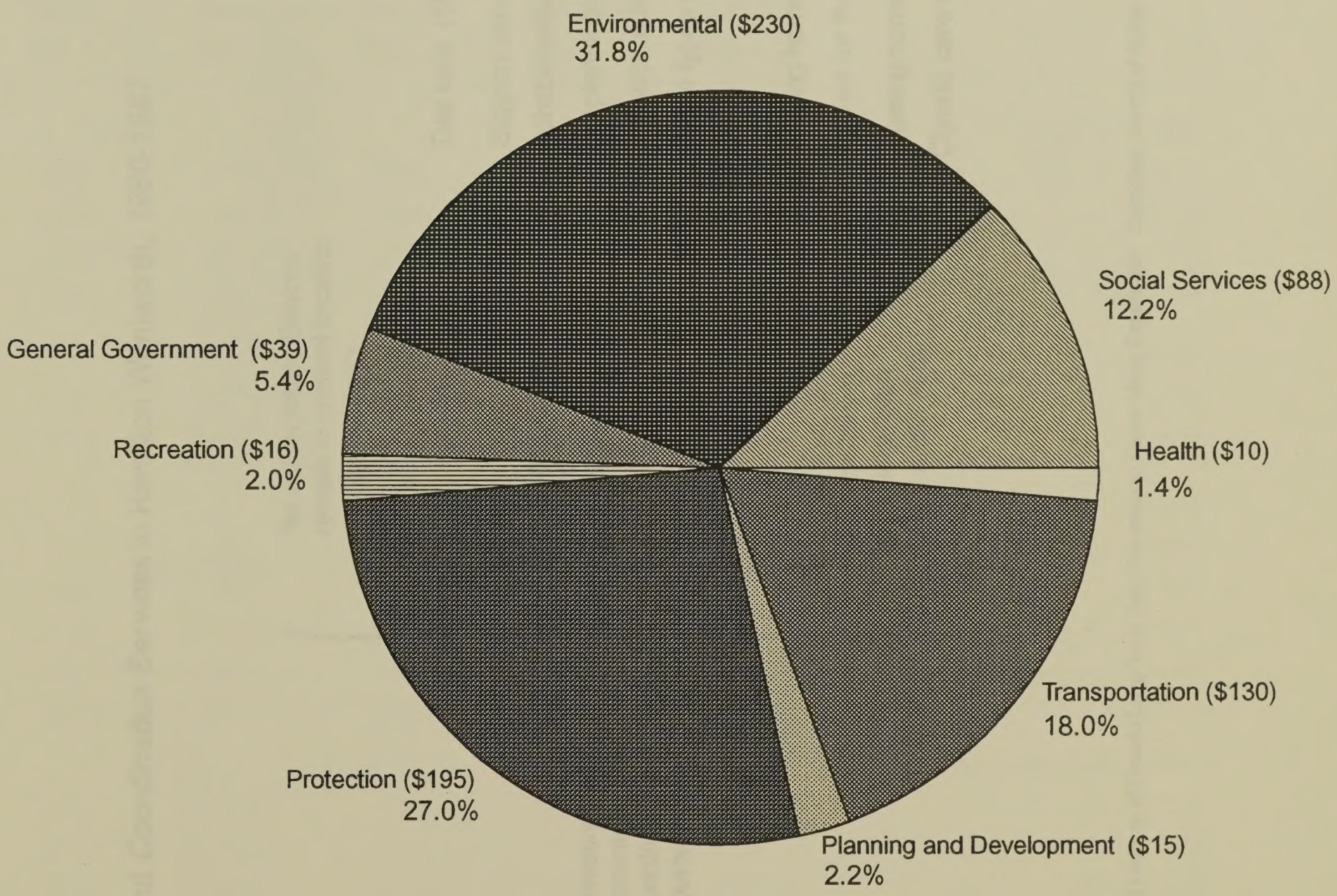
Mental Health = The Hamilton Psychiatric Hospital, community mental health facilities, alcohol and drug dependency, Addiction Research Foundation, Provincial Aid - Home For Special Care.

Other Primary Care Services = Hamilton-Wentworth Department of Public Health Services.

Other = Captial grants to health facilities, clinical education, operations of hospital-related facilities, health resources development plan, health innovation fund and Hamilton-Wentworth District Health Council.

Source: Ontario Ministry of Health, Information, Planning & Evaluation Branch. Ontario Health Expenditures 1990-91. 1993.

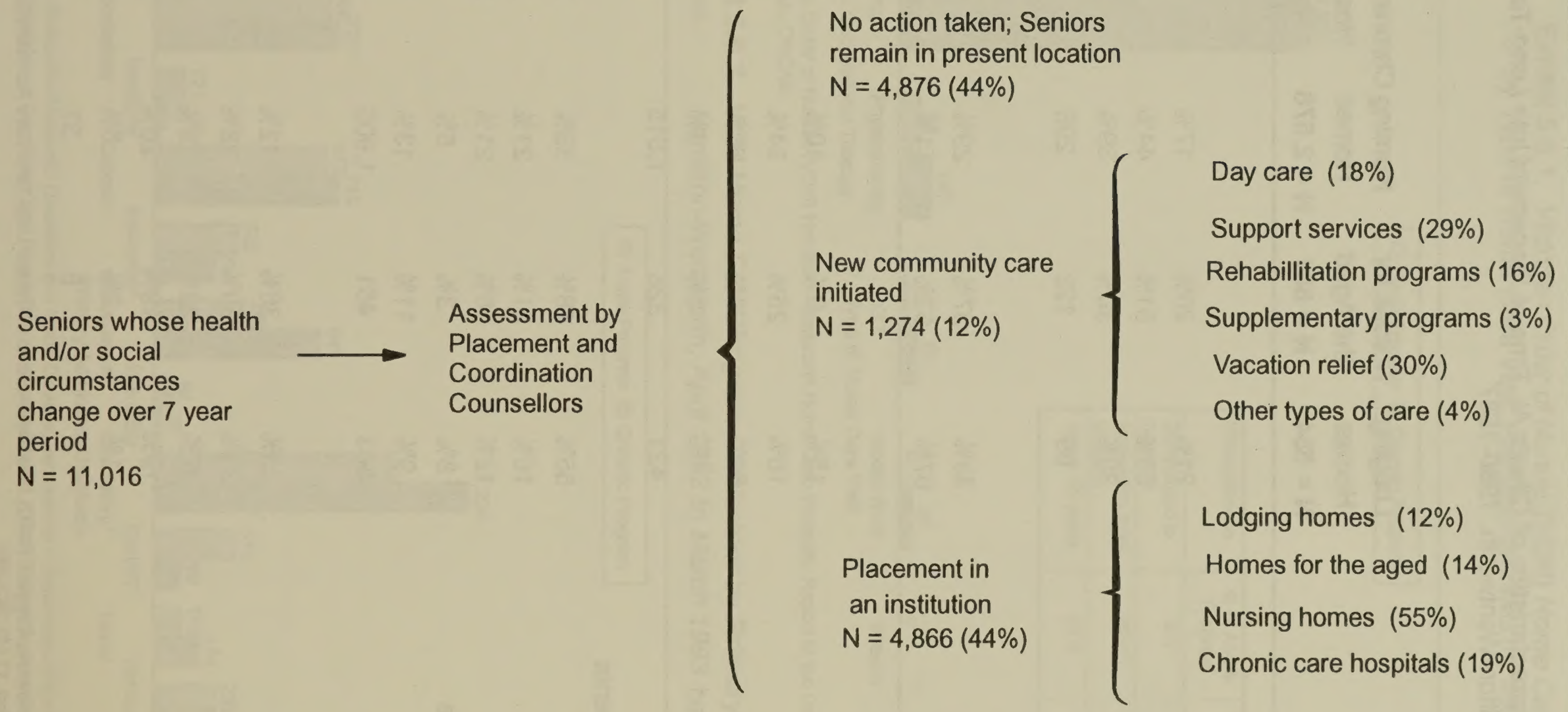
Exhibit 5.4.3. *Breakdown* of *Average Residential Service Bill**, 1992



*1992 Average Residential Service Bill = $723 for a residential property of $150,000 market value.

Source: The Regional Municipality of Hamilton-Wentworth 1992 Budget

Exhibit 5.5.1. ***Placement*** **and** ***Coordination Services*** **in Hamilton-Wentworth,** ***1980-1987***



Seniors whose health and/or social circumstances change over 7 year period
N = 11,016

Assessment by Placement and Coordination Counsellors

No action taken; Seniors remain in present location
N = 4,876 (44%)

New community care initiated
N = 1,274 (12%)

- Day care (18%)
- Support services (29%)
- Rehabillitation programs (16%)
- Supplementary programs (3%)
- Vacation relief (30%)
- Other types of care (4%)

Placement in an institution
N = 4,866 (44%)

- Lodging homes (12%)
- Homes for the aged (14%)
- Nursing homes (55%)
- Chronic care hospitals (19%)

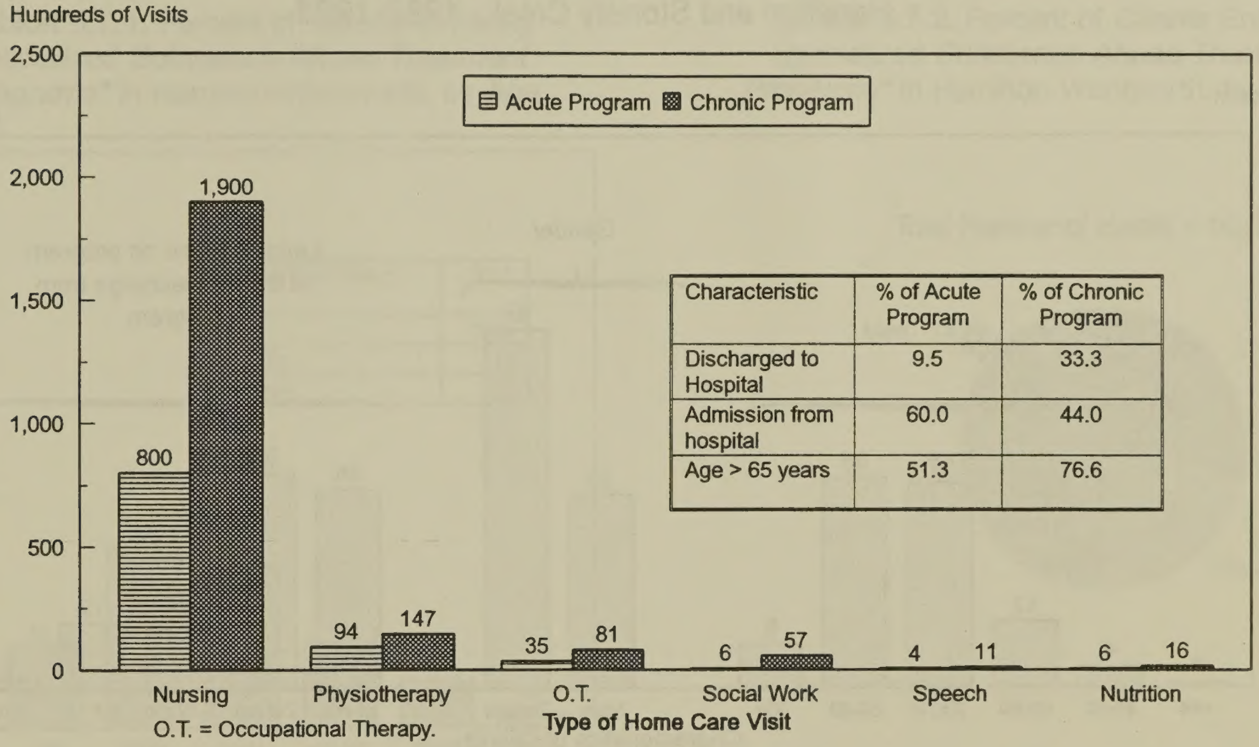
Source: Haight M, Chambers L, Caygill J. (1992). Survival Patterns of Ontario Long-Term Care Admissions: Seven Years Experience. Canadian Journal of Aging, 11 (4), 387-399.

Exhibit 5.5.2. ***Characteristics of Clients*** **At Time of** ***Placement*** **Into** ***Long-Term Care*** Facilities in Hamilton-Wentworth, ***1980-1987***

Characteristics	Lodging Homes N = 584	Homes for the Aged N = 681	Nursing Homes N = 2,676	Chronic Care Hospitals N = 925	Total N = 4,866
Age (Years)					
65-74	21%	20%	17%	25%	19%
75-84	50%	51%	44%	42%	45%
85+	30%	30%	39%	33%	36%
missing N	69	122	298	104	593
Gender					
Male	33%	37%	29%	41%	33%
Female	67%	63%	71%	59%	67%
Marital Status					
Single	15%	9%	10%	9%	10%
Married	16%	25%	24%	39%	26%
Widowed	66%	61%	63%	50%	60%
Divorced/separated	4%	5%	3%	2%	3%
missing N	421	328	1,515	499	2,763
Living Arrangements					
Alone	55%	48%	39%	22%	39%
With spouse	16%	21%	21%	35%	24%
With family	12%	18%	21%	20%	20%
With other relative	8%	3%	5%	3%	5%
Others	9%	11%	13%	19%	13%
missing N	503	451	1,905	653	3,512
Memory					
Normal	25%	36%	12%	14%	16%
Forgetful	29%	30%	28%	15%	26%
Confused	27%	22%	29%	21%	26%
Mildly confused	19%	19%	26%	33%	25%
No recall	1%	2%	5%	17%	7%
missing N	6	6	37	19	68

Source: Haight M, Chambers L, Caygill J. (1992). Survival Patterns of Ontario Long-Term Care Admissions: Seven Years Experience. Canadian Journal of Aging, 11 (4), 387-399.

Exhibit 5.6.1. *Victorian Order of Nurses* ***(VON) Home Care Program,*** by ***Type of Home Care Visit,*** Hamilton-Wentworth, ***1992-1993***

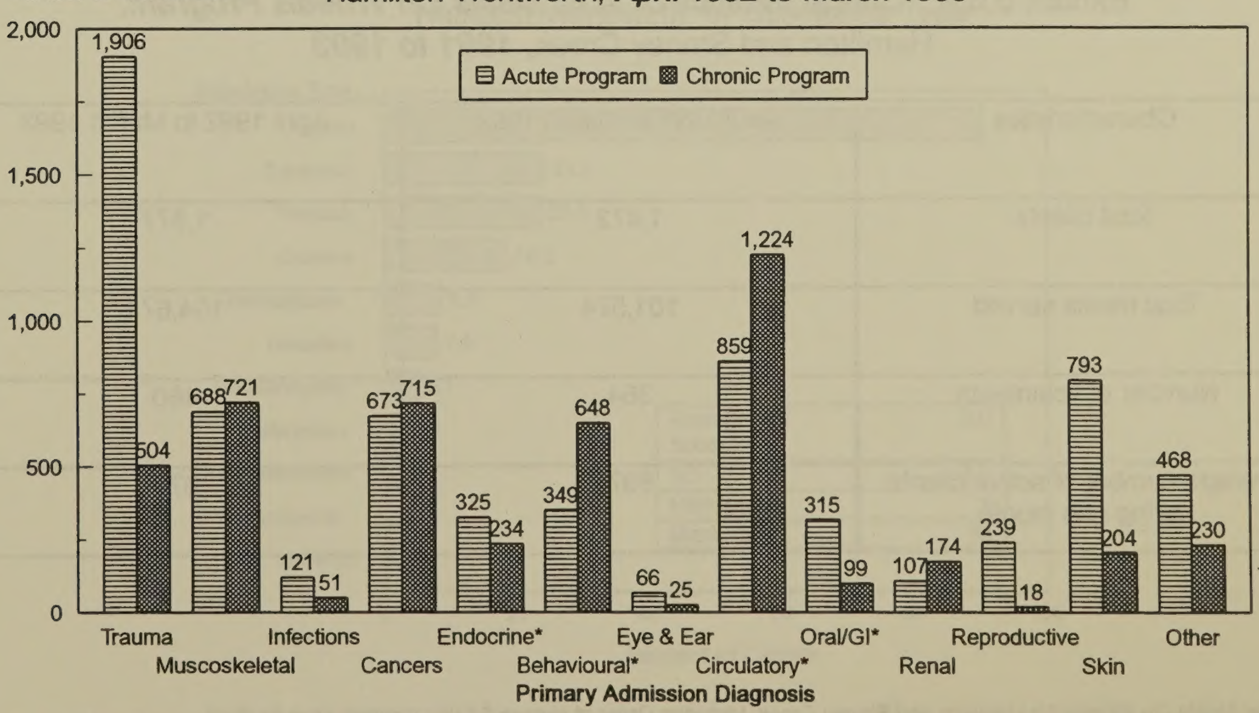


Characteristic	% of Acute Program	% of Chronic Program
Discharged to Hospital	9.5	33.3
Admission from hospital	60.0	44.0
Age > 65 years	51.3	76.6

O.T. = Occupational Therapy.

Source: Victorian Order of Nurses (VON) Hamilton-Wentworth Home Care Program; Report to the Ontario Ministry of Health, J40185AA, OHCAS.

Exhibit 5.6.2. ***VON Home Care Program Admissions*** by ***Primary Diagnosis,*** Hamilton-Wentworth, ***April 1992 to March 1993***



*Endocrine = Endocrine/Metabolic Disorders and Blood Disease; Behavioural = Behavioural/Psychiatric, and Nervous System Disorders; Circulatory = Circulatory and Respiratory Diseases; Oral/GI = Oral/Gastrointestinal Disorders.

Source: VON Hamilton-Wentworth Home Care Program; Contact: Nancy Dojosale.

Exhibit 5.6.3. *Characteristics* of *VON Meals On Wheels Program Clients,*
Hamilton and Stonety Creek, ***1992-1993***

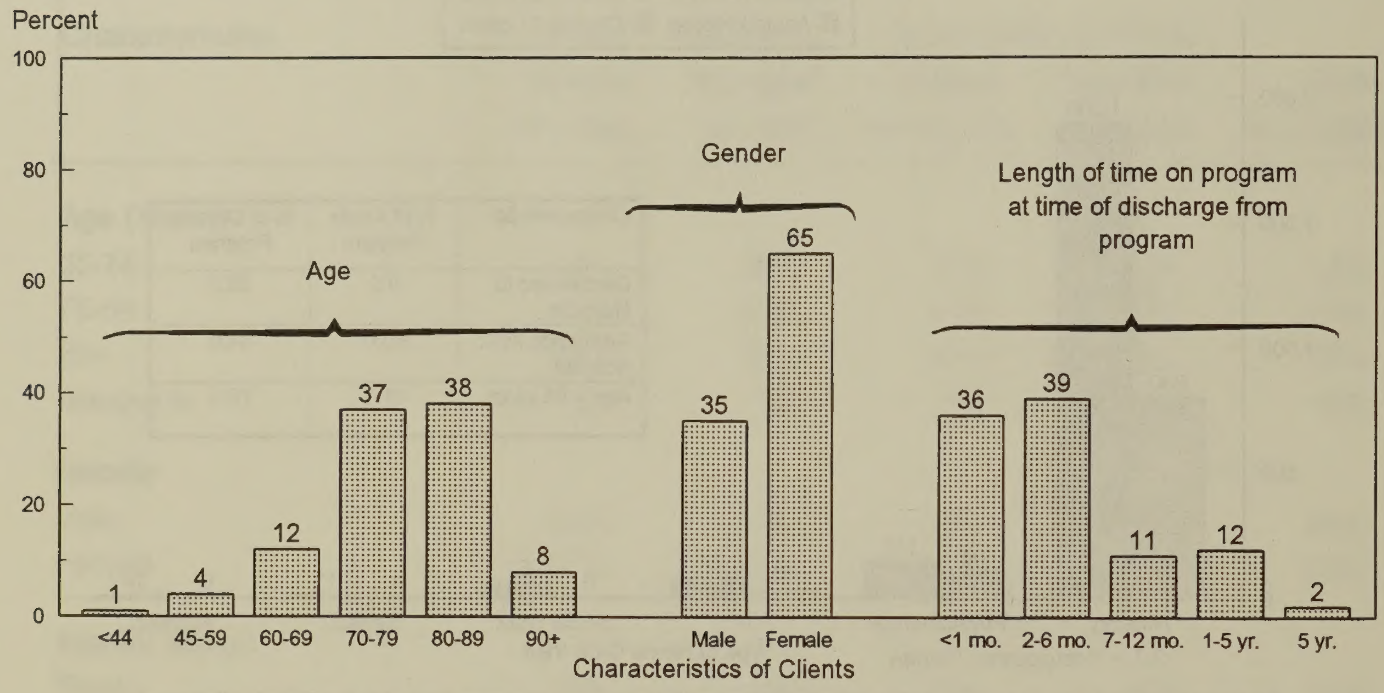
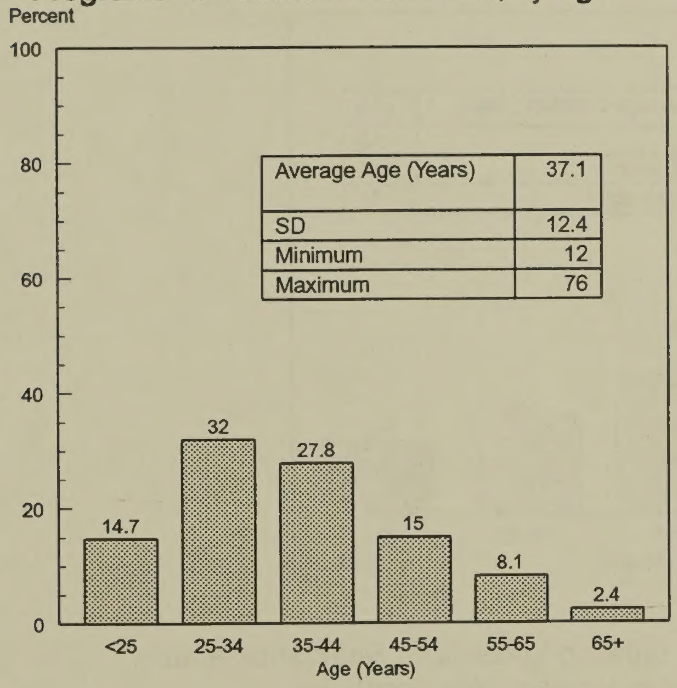


Exhibit 5.6.4. *Characteristics* of *VON Meals On Wheels Program,*
Hamilton and Stoney Creek, ***1991 to 1993***

Characteristics	April 1991 to March 1992	April 1992 to March 1993
Total clients	1,472	1,877
Total meals served	101,574	104,674
Number of volunteers	364	460
Average number of active clients during one month	597	673

Source: Meals On Wheels for Hamilton and Stoney Creek, Victorian Order of Nurses (VON); Contact: Mae Radford.

Exhibit 5.7.1. Percent of ***Clients*** Entering Specialized ***Substance Abuse Treatment Programs**** in Hamilton-Wentworth, by ***Age***



Average Age (Years)	37.1
SD	12.4
Minimum	12
Maximum	76

Exhibit 5.7.2. Percent of ***Clients*** Entering Specialized ***Substance Abuse Treatment Programs**** in Hamilton-Wentworth, by ***Gender***

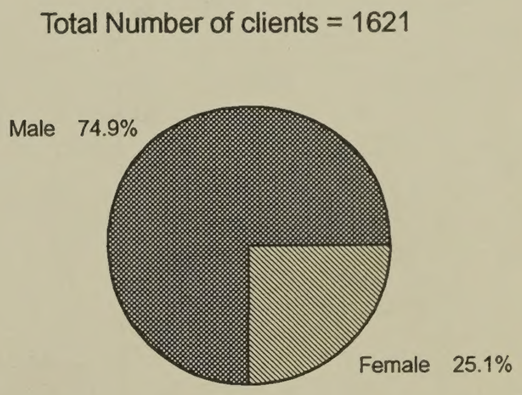
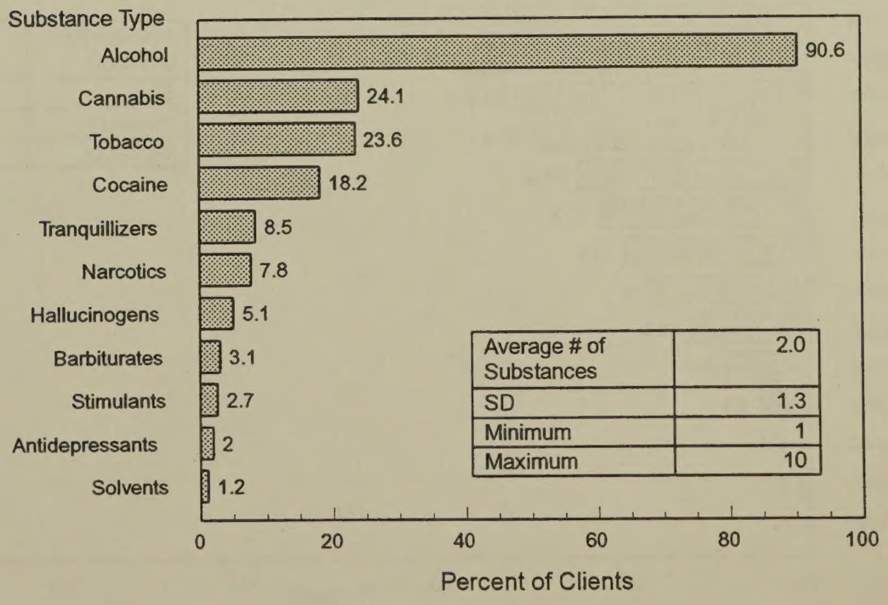


Exhibit 5.7.3. Percent of ***Clients*** Entering Specialized ***Substance Abuse Treatment Programs**** in Hamilton-Wentworth, by ***Substance Type***

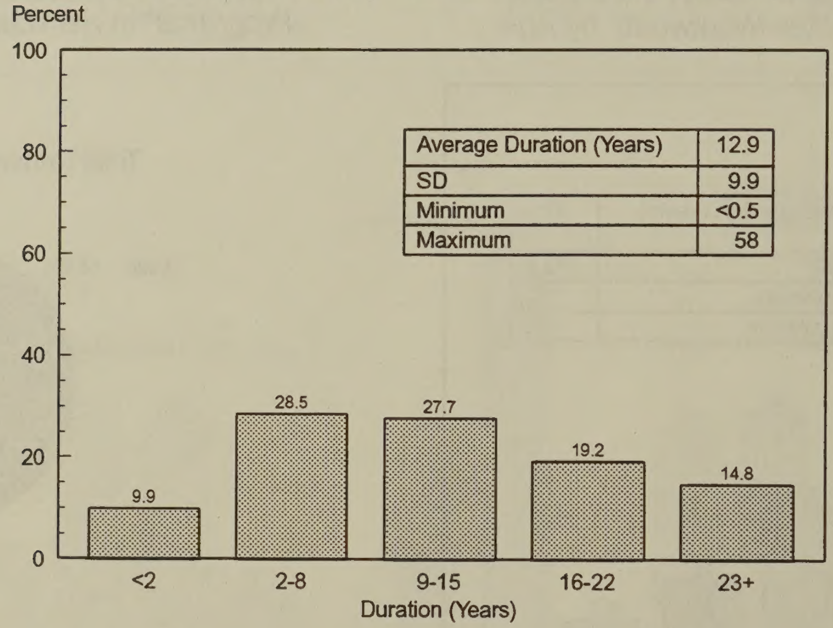


Average # of Substances	2.0
SD	1.3
Minimum	1
Maximum	10

* Clients entered Specialized Substance Abuse Programs in Hamilton-Wentworth between April 1991 and March 1992.

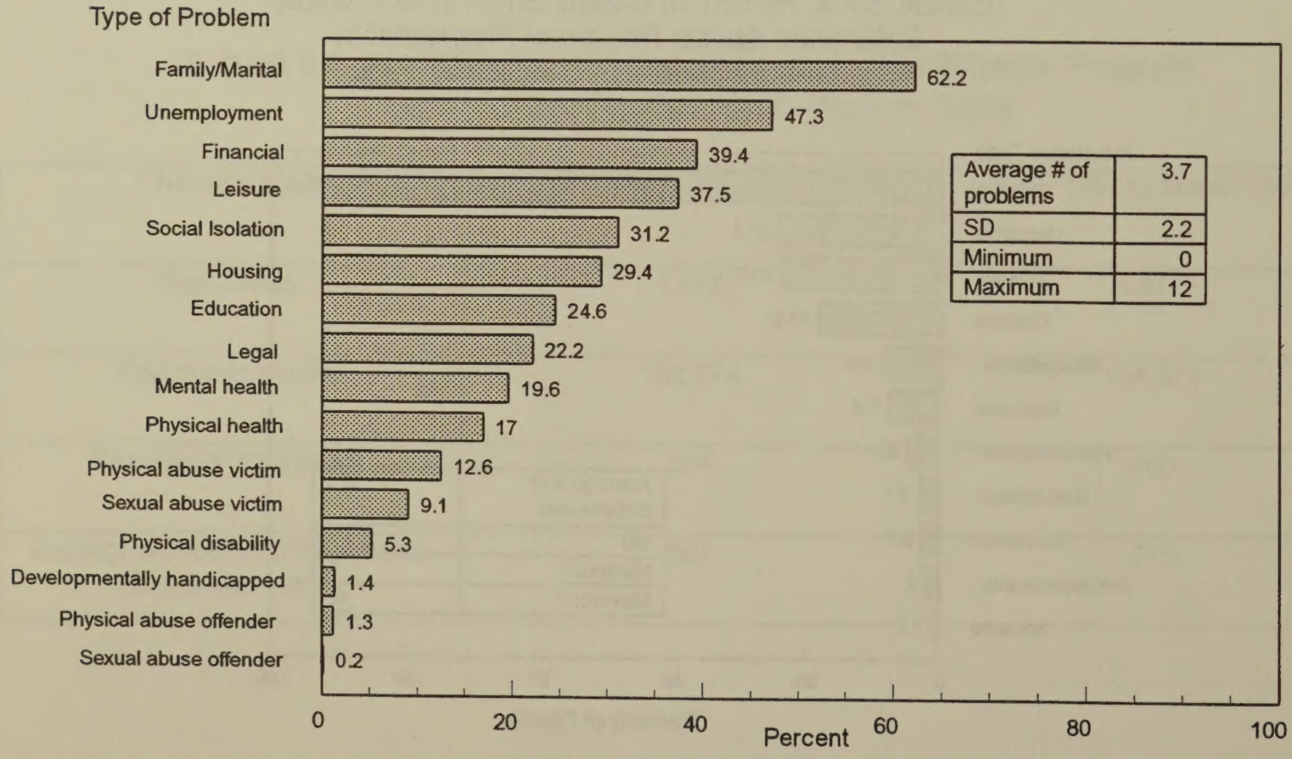
Source: DeVillaer M, Barbieri M. Substance Abuse Treatment in Hamilton-Wentworth: Program Types and Client Characteristics 1991-92. A Report from the Substance Abuse Monitor, Hamilton Office, Addiction Research Foundation, 1993.

Exhibit 5.7.4. Percent of ***Clients*** Entering Specialized ***Substance Abuse Treatment Programs**** in Hamilton-Wentworth, by ***Duration of Substance Abuse***



Average Duration (Years)	12.9
SD	9.9
Minimum	<0.5
Maximum	58

Exhibit 5.7.5. Percent of ***Clients*** Entering Specialized ***Substance Abuse Treatment Programs**** in Hamilton-Wentworth, by Self-Reported ***Social/Health Problems***



Average # of problems	3.7
SD	2.2
Minimum	0
Maximum	12

* Clients entered Specialized Substance Abuse Programs in Hamilton-Wentworth between April 1991 and March 1992.

Source: DeVillaer M, Barbieri M. Substance Abuse Treatment in Hamilton-Wentworth: Program Types and Client Characteristics 1991-92. A Report from the Substance Abuse Monitor, Hamilton Office, Addiction Research Foundation, 1993.

6.1. *Infowatch* Newsletters

HPAU *Infowatch*

Health Priorities Analysis Unit
McMaster Faculty of Health Sciences

April 1989

The HPAU Infowatch is an "experimental" newsletter of the Health Priorities Analysis Unit, designed to disseminate current, relevant health and social data similar to that which has or will appear in the Fact Book on the Health Status of Hamilton- Wentworth Residents. Infowatch will be distributed intermittently, depending on the availability of new data.

This first issue focusses on the Services for Seniors Study, a report of findings from the survey of seniors prepared by the Regional Municipality of Hamilton-Wentworth and the Hamilton-Wentworth District Health Council, October 1988.

Study Information

The Services for Seniors Study is part of a wider group of studies that include:

- o Waiting List Survey
- o Bed Accomodation Survey
- o Key Informants Survey
- o Telephone Survey of Seniors
- o Seniors' Workshops

In this issue we look at selected issues from one component: the telephone survey of 677 non-institutionalized residents 55+ years of age.
Sample:
- city of Hamilton = 400 (59%)
- Five surrounding municipalities in Hamilton-Wentworth = 277 (41%)

Questionnaire response rate = 60% (Response rates by age group were not reported, but usually diminish with increasing age. Rates of 80% or more are generally considered acceptable).

In the report discussion focused on the 65+ age group, representing 53% of those surveyed; a total of 359 respondents, only 35 or so of whom were 85 or over.

Perception of Health

Asked to compare their own overall health to others their age, the majority (77%) of respondents indicated that their health was either good or excellent; only 3.8% considered their health to be poor compared to others their age (Figure 1 above). There were no major differences in perception on the basis of age, according to the report.

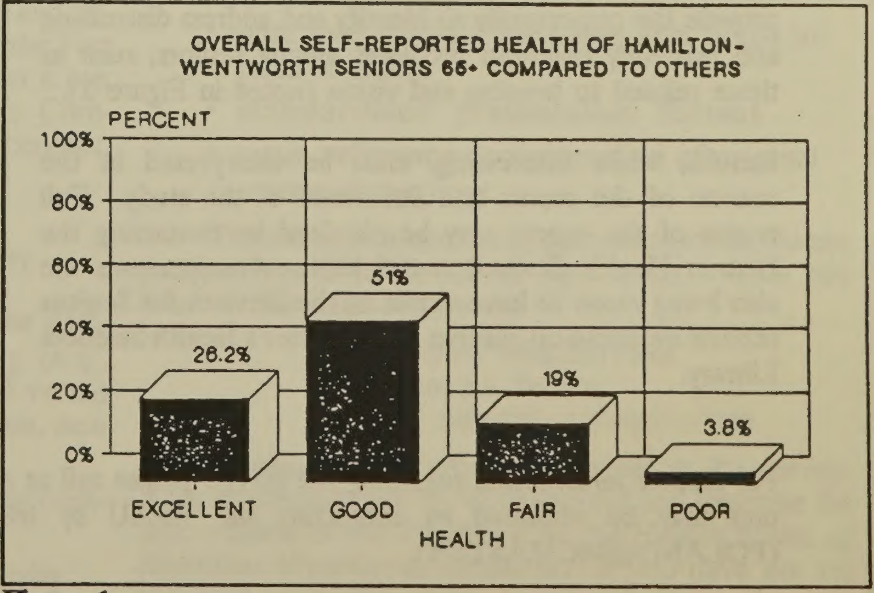
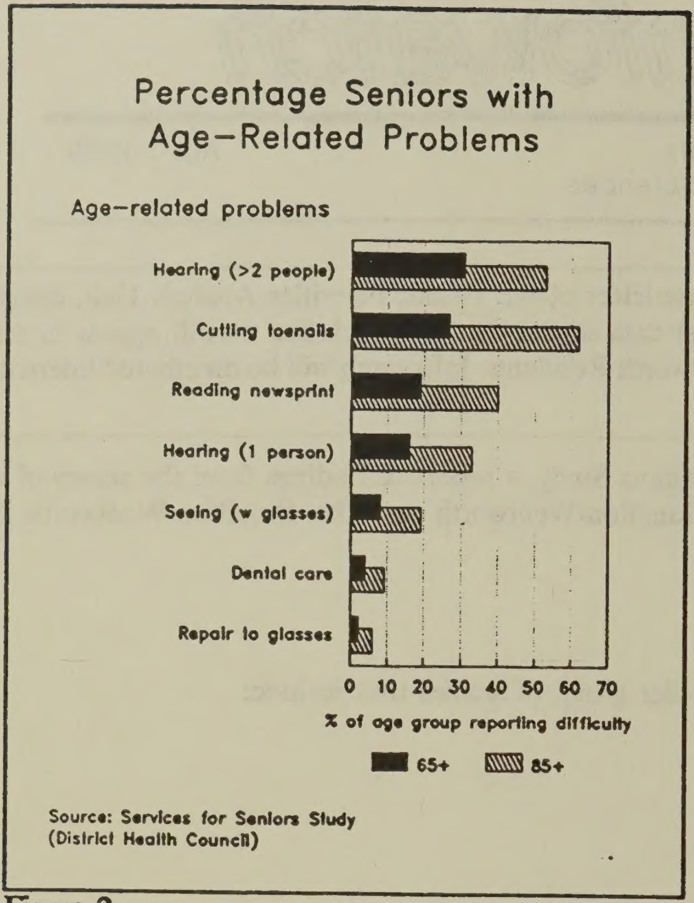


Figure 1



Source: Services for Seniors Study
(District Health Council)

Figure 2

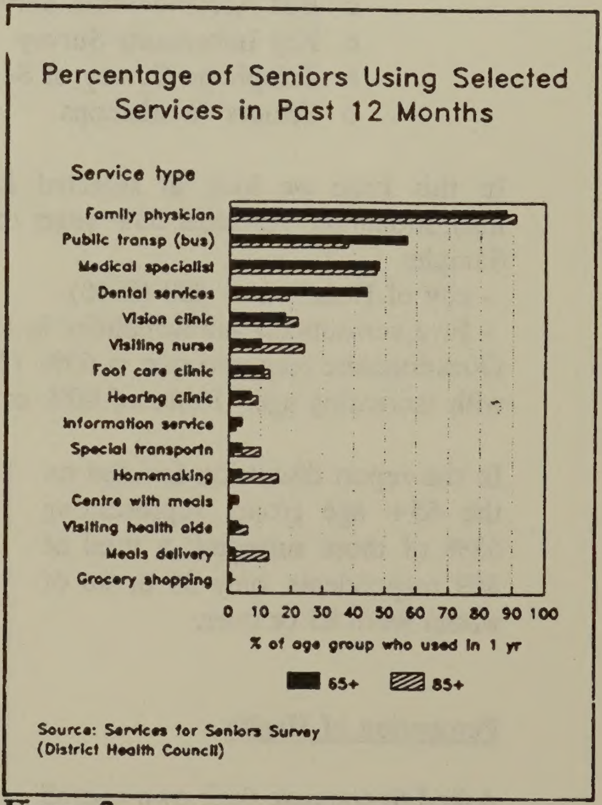
Health and Other "age related" Problems

When asked about difficulties with the items in Figure 2, 31% of those aged 65 to 84 years and 53% of those over 85 years identified hearing as a problem. Visual difficulties were reported by 27% and 59% of those aged 65 - 84 years and 85+ respectively. Thus, a relatively large number of seniors appear to experience these distressing and potentially disabling health problems, some of which, if identified, may be addressed.

Community, Social and Health Services Use

Figure 3 indicates that approximately 90% of the respondents visited a family physician at least once during the 12 month period prior to the survey. Such visits can provide the opportunity to identify and address distressing and relatively common problems among seniors, such as those related to hearing and vision (noted in Figure 2).

Results, while interesting, must be interpreted in the context of the merits and limitations of the study. Full copies of the report may be obtained by contacting the District Health Council at 389-1321. Arrangements are also being made to have copies of the Services for Seniors reports available on reserve at McMaster's Health Sciences Library.



Source: Services for Seniors Survey
(District Health Council)

Figure 3

For further information regarding the HPAU please call us at 572-7970. An information pamphlet on the unit may be obtained by contacting the HPAU by telephone, in writing, or via electronic mail (POLAND@MCMASTER).

Health Priorities Analysis Unit, 25 Main St.W., 2nd floor, P.O.Box 897, Hamilton, Ontario, L8N 3P6

The HPAU is sponsored by the Educational Centre for Aging and Health, which was established in 1987 with funding from the Ontario Government

Infowatch

Health Priorities Analysis Unit
McMaster Faculty of Health Sciences

November 1989
Volume 1, Number 2

➡ Survey Of Fact Book Users ⬅

A 100-page *Fact Book on the Health Status of Hamilton-Wentworth Residents* was published by the Health Priorities Analysis Unit (HPAU) and distributed in the early part of 1989. The objectives of the Fact Book are:

1) to provide educators, health planners and service providers easy access to timely community health information that is collected on a routine basis;
2) to facilitate the communication of reports and study results on health status and health promotion in the Region; and
3) to provide an overview of some of the available community health information, while also enabling the reader to track down the original source before drawing conclusions.

Evaluation of the Fact Book

A survey, based on a stratified random sample of 90 Fact Book recipients was undertaken to assess its utility and impact on the education, service and research activities of users. Results indicate that the Fact Book is consulted and valued by users, and that it can alter people's approach to thinking on an issue. Comments fall into two broad areas: concerns of content, and those of presentation/format.

Results of Fact Book Evaluation

- Of 31 respondents, 22 (71%) reported that the Fact Book altered their approach or thinking (e.g., health/social service cooperation, regional versus provincial data, definition of target population, new resource for teaching).
- 10 reported that the Fact Book contents were complete.
- 10 reported the the Fact Book was 'user friendly'.
- 27 (87%) would purchase another edition when available.

Suggestions for Improvement

Content of the Fact Book:

- **completeness**, and the need for non hospital based health information such as lifestyle and environmental data.
- **classification** schemes provide little or no insight into the reality of human suffering (e.g., use of ICD-9).
- **comparability** in geographical units, and in the definition of health-related information, is needed.
- **continuity** of comparable data for determination of trends.

Format of the Fact Book:

- **aggregation** of data into relevant groups.
- more **interpretation** and **analysis** sections would be an asset.
- more user-friendly **graphics and maps** instead of tables.
- **standardized presentation format**
- retain **reference** documentation of original sources throughout.

The comments are being incorporated into future publications from the HPAU. Let us know what you think of this issue. We're at:

25 Main Street West, 2nd Floor
Hamilton, Ontario
L8N 3P6 (416) 572-7970

Our thanks to all who participated in the survey. Your comments will serve to expand and improve the next edition of the *Factbook on the Health Status of Hamilton-Wentworth Residents*. If you have not yet received your copy of the Fact Book, it can be purchased from the HPAU (cost $5.00).

The Health Priorities Analysis Unit is sponsored by the Educational Centre for Aging and Health which was established in 1987 with funding from the Ontario Government.

Infowatch

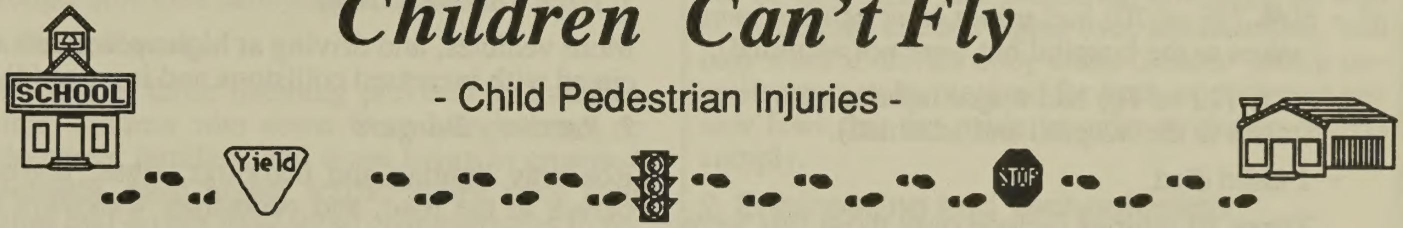
Health Priorities Analysis Unit
McMaster Faculty of Health Sciences

A Service of the Health Priorities Analysis Unit
To Inform People about Research in Health

July 1990
Volume 2, Number 2

Children Can't Fly

- Child Pedestrian Injuries -



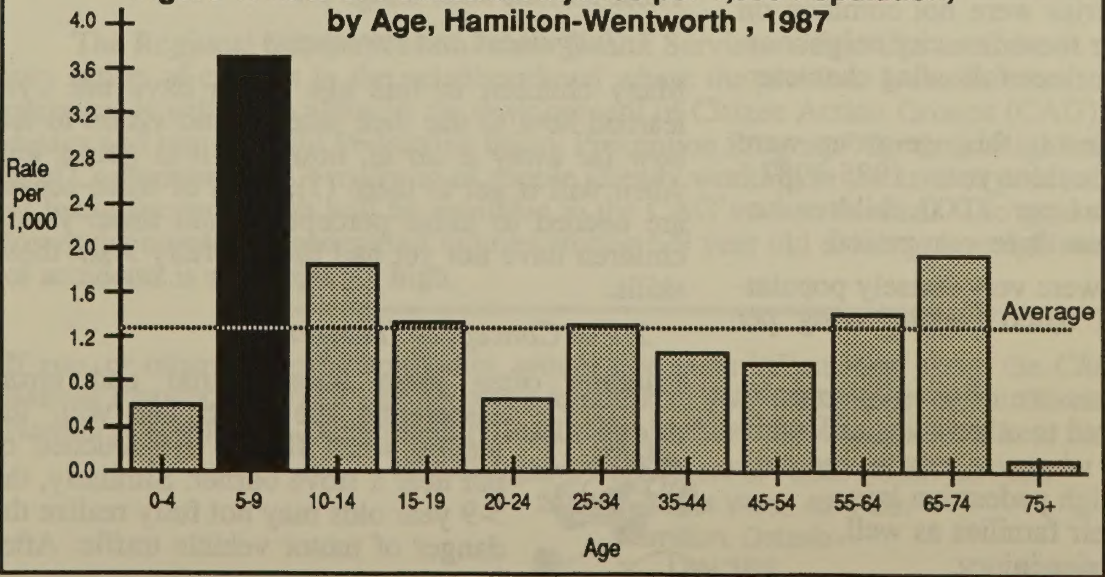
What's this issue about ?

This issue of ***Infowatch*** looks at childhood pedestrian safety. First, we identify individual children who might be at increased risk of pedestrian injury, and why this could be. For example, where children live, their age, and family characteristics all influence a child's risk of having a pedestrian injury.

Second, we ask your help in trying to think of and implement ways to reduce the number of injuries among these children. This could be accomplished by taking leadership in community strategies directed at such things as:

- *Enforcement and Laws*
- *Engineering and Technological Changes*
- *Education about the Safe Practices*

Figure 1. Rate of Pedestrian Injuries per 1,000 Population, by Age, Hamilton-Wentworth , 1987



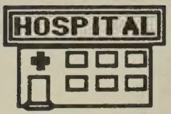
How Big is the Problem ?

After a baby has survived his or her first year, and begins to explore the world around them, injuries and collisions become an increasing part of the young persons existence. However, it is seldom realized that the greatest loss of life in childhood is by far the result of injuries and death due to accidents, poisonings, and violence (1). Within this group, injuries from collisions with motor vehicles rank as the most common cause of death.

At What Age do Most of the Injuries Occur ?

Collision data in Hamilton-Wentworth for 1987 reported that children aged 5-9 years received pedestrian injuries three times more often than all other ages (see Figure1). This is equivalent to a rate of 3.6 per 1,000 children.

As shown in Figure 1, other age groups affected above average included the 10-14 year olds, and seniors, 65-74 years. But these rates were about half of those observed for the 5-9 year old age group. As a result, this ***Infowatch*** will focus only on these young children, that is, the 5-9 year olds.



Were the Children Badly Hurt ?

Of the 5-9 year old children who were injured as pedestrians in 1987:

- 32% (22 of 70) were not hurt badly enough to be sent to the hospital.
- 50% (35 of 70) had minor injuries (they were taken to the hospital but were not admitted).
- 17% (12 of 70) had major injuries (they were taken to the hospital and admitted).
- 1 child died.

These 70 injuries include only those that were reported to the police. This is likely an underestimate of the actual number of pedestrian injuries since many collisions go unreported.

In 1985, the Hamilton-Wentworth Collision Report (2) found that of 86 children aged 5-9 years involved in pedestrian collisions:

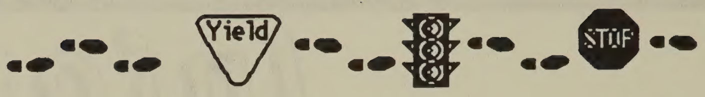
- 85% (71 of 86) had done something unsafe (e.g., crossing the street against the light).
- 59% (51 of 86) involved children running onto the road from between parked cars.
- 48% (42 of 86) occurred in the hours after school (3 to 6 p.m.).

Where Do Most of the Collisions Happen ?

Regional police report pedestrian injury among children 5-9 years old to be very common in a few neighbourhoods in the city of Hamilton (see map on last page). (Injuries were not common on Hamilton Mountain.) For these few city neighbourhoods, at least two of the three following characteristics were apparent:

- more than 10 children in this age-group were hit by a car during the three years, 1985-1987
- at least 24 collisions per 1,000 children occurred during the same three year period.
- the neighbourhoods were very densely populated with more than 6,000 people living per square mile.

In addition, residents are often economically overburdened as compared to other areas of Hamilton-Wentworth (3). For whatever reason, the children who live in these high pedestrian injury areas, and perhaps their families as well, are at high risk of pedestrian injury.



Is it the Fault of the Roadway Environment?

Injuries occur when the roadway environment is unable to protect pedestrians, thereby failing to control for the dangers of traffic flow.

1. High Volume of Traffic

More vehicles, and driving at high speeds are associated with increased collisions and injuries (4).

2. Roadway Dangers

Roadway lighting and markings, signs, pot-holes, curves in the road, and pedestrian walkways such as those located near schools are examples of the roadway contributing to vehicle-pedestrian collisions (4).

What About Driver Error?

Of course, the cause of pedestrian injuries in children is often the responsibility of the driver. Driver error can be blamed for at least 21% of child pedestrian injuries (5,6). Speeding, failing to give the right of way, and ignoring traffic signals are just some of the errors that many drivers routinely commit which could lead to a collision.

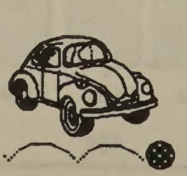
We Can't Blame the Children

While thinking about ways to reduce the number of child pedestrian injuries, we must realize that focusing on (or blaming) the children will do little good. If interventions are to work, they should be aimed at changeable or modifiable characteristics. The problem is that the things which make 5-9 year olds more likely to be involved in collisions may not be modifiable. These include such things as:

1. *Judgement and Perception*

Many children in this age group have not yet learned how to use their hearing and vision to tell how far away a car is, how fast it is going, and when will it get to them (7). Both of these senses are needed to judge perception, and these young children have not yet had time to fully learn these skills.

2. *The Concept of "Danger"*



Children often learn through trial and error: associating the word hot with the feeling when fingers are touched or put near a stove burner. Similarly, the 5-9 year olds may not fully realize the danger of motor vehicle traffic. After all, cartoon characters often get hit and walk away. Since children learn through experience and positive encouragement, they need constant reminders of the real dangers of traffic.

3. *Natural Exuberance, Curiousity, and Playfulness*

In addition to children's physical and cognitive immaturity, this is also a period of time when the child's natural curiosity and exuberance often play a stronger role than safety and caution.

4. *Other Factors*

Of interest to those planning prevention strategies is that children who come from low income, or single-parent families, and those living in crowded households, have higher traffic injury rates than families that do not have these characteristics (5,6). Housing density has also been found to affect a child's risk of injury (6).

Is The Onus On The Community?

Communities can ignore or have priorities in other areas than pedestrian injury reduction. For example:

- Police time devoted to traffic control may be given a lower priority (4)
- Fines and penalties to drivers may be too low to act as deterrents to promote safer driving (4).
- Transportation planning may not exist or is not conducted in cooperation with other planning divisions.

Possible Community Strategies...

At the beginning of this issue, we talked about 3 ways or strategies which, used together, could assist in reducing the number of child pedestrian injuries .

1. Enforcement and Laws

Laws to reduce the speed limit, increase the number of stop signs and pedestrian crossings, as well as installing caution lights over intersections, will only work if drivers obey them. Greater police surveillance may be required for both existing and any new laws that are made in order to ensure drivers comply.

2. Engineering and Technological Changes:

Here, we could try to change the flow of traffic in and around the high risk neighbourhoods. This would then separate the children from the vehicles. Another way would be to change the flow of children! For example, using volunteers to walk children to and from school, more crossing guards, placing entrances to play areas on quiet streets, and offering lunch and after school programs in elementary schools would give children somewhere to play and keep them off of the streets.

3. Education:

Here we could teach children and parents to be safer pedestrians. We should also remind ourselves to be better drivers and be alert for people who may surprise us by running or walking into traffic.

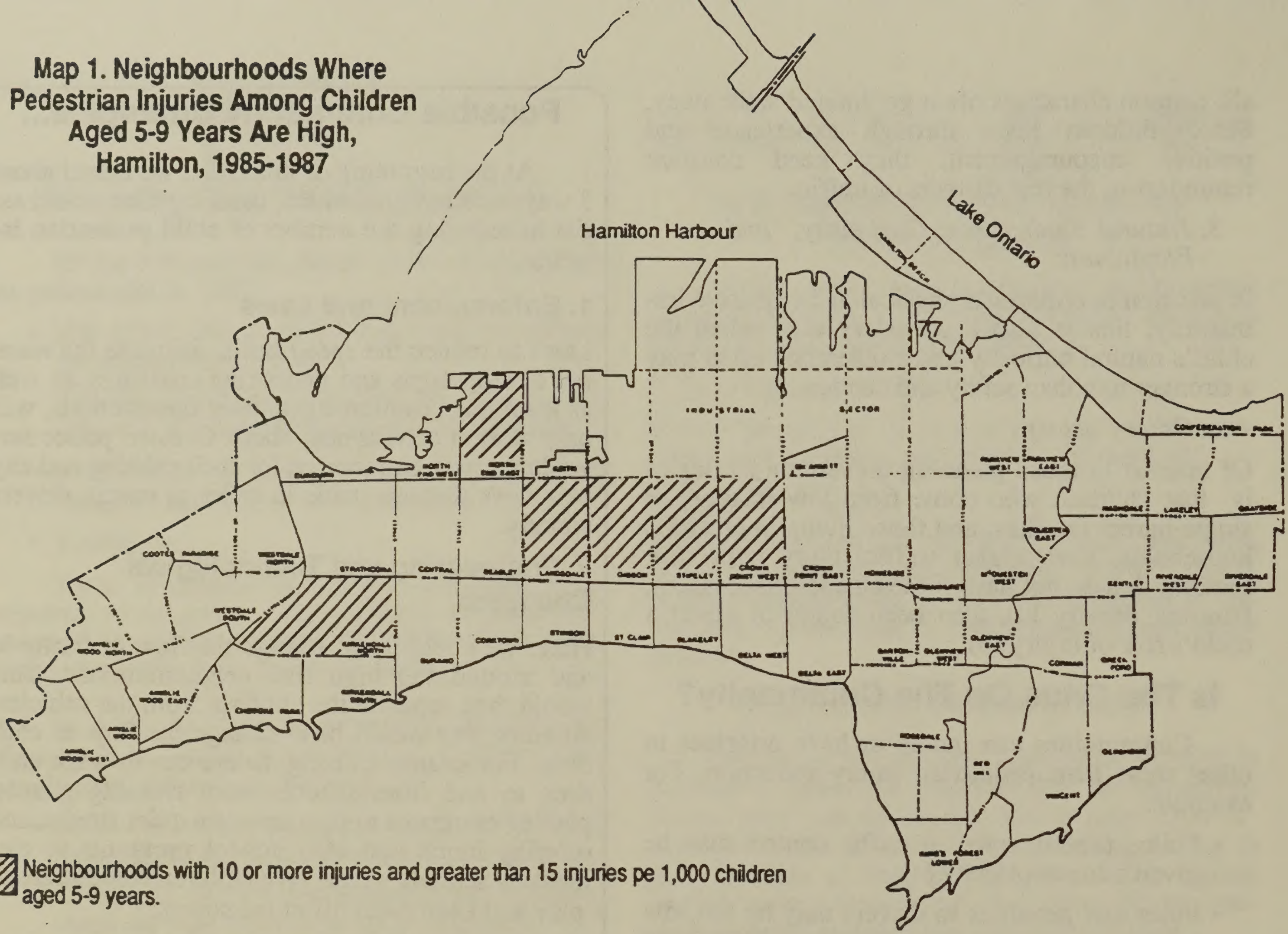
Children Need Our Help To Increase Pedestrian Safety

The Regional Department of Public Health Services would like to assist in strengthening the community action of citizens in the neighbourhood where the problem is the most serious. For example, the Department is willing to assist in the development of Citizen Action Groups (CAG). Such a group could then design and run a "Child Pedestrian Injury Prevention Program" for their neighbourhood. A Regional Advisory Committee (RAC) made up of people already working in the area of pedestrian safety is in the process of being formed which will be available to the CAG's when needed. The **goal** of the CAG's would be to lower the number of pedestrian injuries among 5-9 year old children in neighbourhoods where the number of accidents is unacceptably high.

If you, or others in your community, would like more information about the ***Child Pedestrian Safety Initiatives Project***, or would like someone to speak to your community about this serious health problem, the Hamilton-Wentworth Department of Public Health Services would like to hear from you. Plesase call:

Kim Sheppard, Department of Public Health Services
25 Main Street West, 4th Floor
Hamilton, Ontario
L8N 3P6 528-1441 ext.232

Map 1. Neighbourhoods Where Pedestrian Injuries Among Children Aged 5-9 Years Are High, Hamilton, 1985-1987


Hamilton Harbour
Lake Ontario
Hamilton Beach
Industrial
Sector
Dundurn
North End West
North End East
Keith
Cootes Paradise
Westdale North
Strathcona
Central
Beasley
Landsdale
Gibson
Stipeley
Crown Point West
Crown Point East
Homeside
Normanhurst
Westdale South
Ainslie Wood North
Ainslie Wood East
Ainslie Wood
Ainslie Wood West
Kirkendall North
Kirkendall South
Chedoke Park
Durand
Corktown
Stinson
St Clair
Blakeley
Delta West
Delta East
Parkview West
Parkview East
Confederation Park
Nashdale
Lakely
Grayside
McQuesten East
McQuesten West
Kentley
Riverdale West
Riverdale East
Bartonville
Glenview West
Glenview East
Corman
Greenford
Rosedale
Red Hill
Vincent
King's Forest Lower

▨ Neighbourhoods with 10 or more injuries and greater than 15 injuries pe 1,000 children aged 5-9 years.

➡ Now Let's Hear From You ⬅

Your comments and suggestions are important to us and are being incorporated into publications from the Health Priorities Analysis Unit like this ***Infowatch***. Let us know what you think about this issue. Our address and telelphone number are:

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Infowatch

Health Priorities Analysis Unit
McMaster Faculty of Health Sciences

December 1989
Volume 1, Number 3

➡Health of Seniors in North Hamilton ⬅

Survey Says...

In a recent survey of North Hamilton, people living in the area were asked questions about their health and things that are likely to affect their health (1). Here, we are going to look at the seniors in North Hamilton (those 70 years and over). After all ...

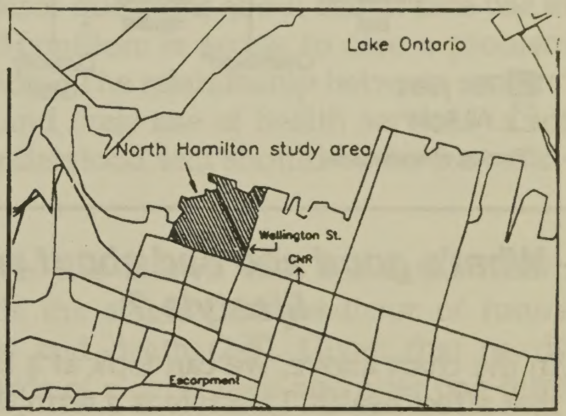
YOU'RE NEVER TOO OLD FOR HEALTH !

How do seniors rate their health ?

How you rate your health and how you say you feel is very important in predicting illness and even death (2-5). For seniors, a total of 61% of men and 36% of women rated their health as either poor or fair, rather than good or excellent. In contrast, an overall sense of positive (psychological) well-being is the experience of 56% men and 41% women in the 70+ age group, while 13% are "not too happy" (compared with 9% in the 18-34 age group).

☼ 23% of seniors need to stay indoors for most or all of the day because of their health and/or the weather. Between 15% and 21% had at least some difficulty with their vision, even with glasses. 7% have difficulty with their hearing. (Since there were higher refusal rates for telephone interviews among those with hearing difficulties, the data for hearing is not consistent.)

North Hamilton

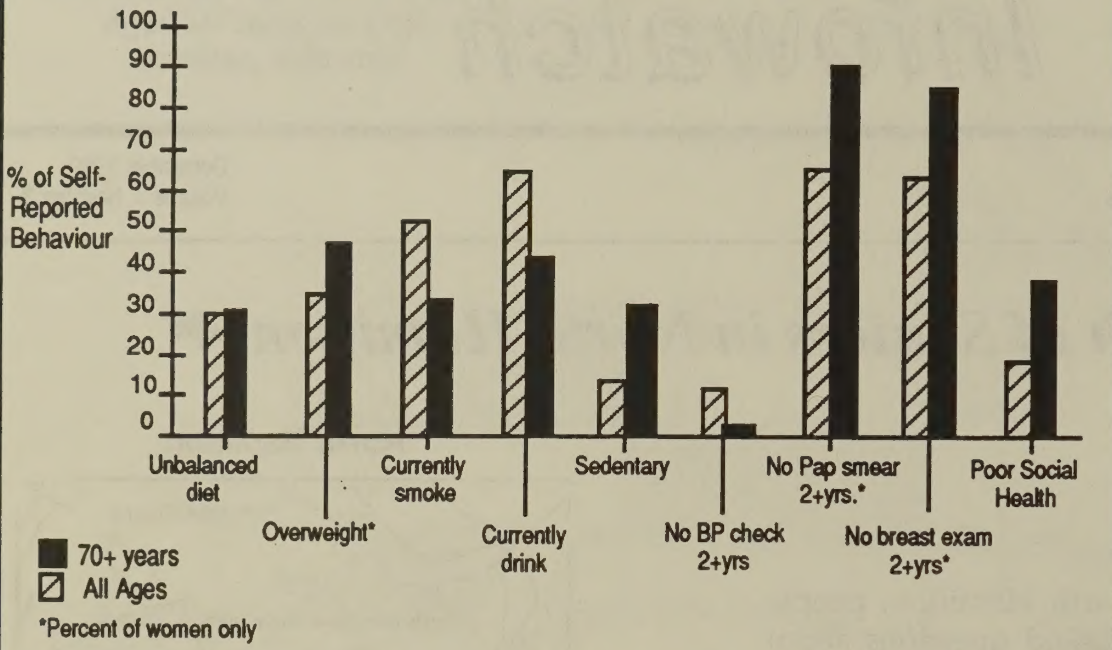


What about seniors' social life ?

Social contact and interaction make an important contribution to health – both to help with emotional support as well as to ease stressful situations when someone is ill (2,6). Of concern in North Hamilton is that only half as many seniors (36%) get together with friends every week compared to those aged 18-34 years (72%). And it gets worse: some 38% of seniors did not have a visitor in the past month; less than 16% had been out to visit friends or relatives during that time; and 4% had not used the telephone at all in the past month, most of these being women.

How many drugs do seniors use ?

Over two-thirds of North Hamilton seniors (70%) take a variety of drugs for their health problems. These may be prescriptions or "over-the-counter" medications (other than vitamins and minerals). Women of all ages use medication more than men – a common finding in surveys (7).



Health-Related Behaviour of North Hamilton Residents 1986

Notes for Graph:

Unbalanced Diet: those reporting sometimes, seldom or never eating a balanced diet.

Overweight: overweight or obese using Body Mass Index (weight+ (heightxheight)).

Currently smoke: smoke cigarettes.

Currently Drink: drink alcohol.

Sedentary: no active physical exercise, little light physical recreation, and light daily effort in work and at home.

No __ 2 Years: respondents not having health check within past 2 years.

Poor Social Health: have not been visited by anyone in the past month.

What's good and bad about seniors' lifestyle ?

In the chart above, we can look at a few things that affect health. Lifestyle is a term that health professionals often use when they talk about things that a person has direct control over. For example, what you eat and how much you drink tell about your lifestyle.

1. Diet

Eating a well-balanced diet, and maintaining ideal weight help to keep people of all ages healthy. A diet low in fats, sugar, and salt, with lots of fibre from fruits and vegetables is considered healthy. 70% of seniors think they always or nearly always eat properly. But, they may eat too much! Particularly elderly women 46% of whom are overweight or obese.

2. Nature's Beverage

Drinking several glasses of water a day is good for your health. But only one-third (37%) of all residents in North Hamilton drank even one glass or less of nature's goodness.

3. Caffeine

Instead of water, a lot of North Hamilton residents drink coffee - nearly one-quarter (23%) drink at least 4 cups a day. This is thought by some experts to be enough to be addictive and cause health problems (8). Even more caffeine is found in tea and soda pop.

4. Alcohol

The no-no's of drinking and driving have thankfully decreased impaired driving. Looking at all age groups combined for a moment, 15% of North Hamilton residents are at "high risk" of having health problems because of their drinking (9). Of seniors, less than one half (43%) drink alcohol. This is quite a bit lower than for all ages, which was nearly two-thirds of residents (64%). Of grave concern for the future is that the younger drinkers began drinking earlier (at around 17 years of age) than their older North Hamilton counterparts (at around 32 years of age).

5. Smoking

Everyone knows that smoking is bad for your health. Unfortunately, this addictive habit is hard to break. For instance, 33% of North Hamilton seniors still smoke, even though many may already have died an early death because of their smoking. Luckily, the quitting rates among seniors are now higher than all other age groups.

6. Physical Activity

Much to our shame, it seems that Toronto residents exercise more than residents of North Hamilton. On the other hand, the North Hamilton community does a lot of its exercising on the job. Since physical activity and health go hand in hand, active seniors should be more healthy. Unfortunately, about 1 in 3 seniors (32%) are sedentary (getting little exercise) (10).

What can seniors do to check on their health ?

1. Blood Pressure

Having your blood pressure checked is a good idea so you can find out whether you're at risk for heart disease or stroke. Thankfully, North Hamilton seniors frequently have their blood pressure checked - 98% had it checked in the past 2 years, though women were checked more than men.

2. Dental Health

An apple a day... and a yearly visit to the dentist are good ideas to stop dental troubles in the early stages. Unfortunately, less than 19% of those 65+, and only 43% for all ages, went to a dentist in the past year. For seniors, this compares to 25% for seniors throughout Canada (11).

3. Women's Health

In many countries, testing for breast cancer and cervical cancer is done to detect and cure the cancer in its early stages. Only 15% of elderly women had a breast exam (by a physician) in the past two years, and 3% have never had a breast exam at all.

Cervical cancer is detected by the Pap smear. Less than 10% of elderly women had a Pap smear in the past two years - a number that decreases with age. This compares to 24% of elderly women in Toronto (7).

How Can These Survey Results be Used ?

1. It appears that many elderly in North Hamilton get very little exercise and have less social interaction than other residents. To address both these needs, the North Hamilton community could, for example, establish a weekly seniors' walking group.

2. The lower use of preventive health care services raises questions about health care use in North Hamilton: is access to care a problem for seniors? The relationship between seniors' health and their use of health services is not fully understood and should be further studied.

3. Research has shown that self-rated health status is the single best predictor of future sickness and death (2-5). Given that nearly two-thirds of elderly men and over one-third of elderly women report fair-to-poor health status, this suggests that seniors in North Hamilton have substantial health needs and may warrant further investigation.

4. Since publication of the survey in the spring of 1989, the North Hamilton Community Health Centre has widely distributed survey results in the community. In addition, it has established committees of community, staff, and Board members to respond to 5 areas related to the health needs of the community:

   - Lifestyle Issues
   - Social Health
   - Health Promotion and Illness Prevention
   - Workplace Hazards
   - High Rates of Illness

For comparison of seniors in North Hamilton to all seniors in Hamilton-Wentworth, more information will be available once the results of the 1989 Hamilton-Wentworth Health Survey are completed later this year.

Watch for future issues of ***Infowatch***.

Survey Methods

The North Hamilton Community Health Survey report was prepared by Dr. Feightner and Dr. Rice for the North Hamilton Community Health Centre, and was released in 1989 (1). The report provides information on residents who were at least 18 years, while this issue of ***Infowatch*** has focussed on the elderly (those 70 years of age and over).

North Hamilton is primarily a working class area with residents having average lower income and education levels than for the Region of Hamilton-Wentworth. Unemployment, and the proportion of lone parent families, is about twice that of the Region (12).

In 1986, a random sample of 650 households was selected from City Property Assessment Rolls for residents of North Hamilton. One person in each household was randomly selected for interview: 505 interviews were completed by telephone (70%), or in person (30%): an overall response rate of 78%. Of the completed interviews, 14.7% (74) were for people 65 years of age and over. With this sample size, estimates are correct within 10 to 11 percentage points, 95 times out of 100.

The 122 questions in the survey covered the following topics: self-rated health status, lifestyle, health maintenance and prevention, health care utilization, medication use, and social health. Questions were drawn mainly from the Canada Health Survey (11), and community health surveys in Toronto (7) and Ottawa (13).

➡ Now Let's Hear From You ⬅

Your comments and suggestions are important to us and are being incorporated into publications from the Health Priorities Analysis Unit like this ***Infowatch***. Let us know what you think about this issue by writing or telephoning us, or place your comments in the drop box at the North Hamilton Community Health Centre.
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The Health Priorities Analysis Unit is sponsored by the Educational Centre for Aging and Health, which was established in 1987, with funding from the Ontario Government.

Infowatch

Health Priorities Analysis Unit
McMaster Faculty of Health Sciences

A Service of the Health Priorities Analysis Unit
To Inform People about Research in Health

May 1990
Volume 2, Number 1

The Baby Boom to The Senior's Boom

The Problem:

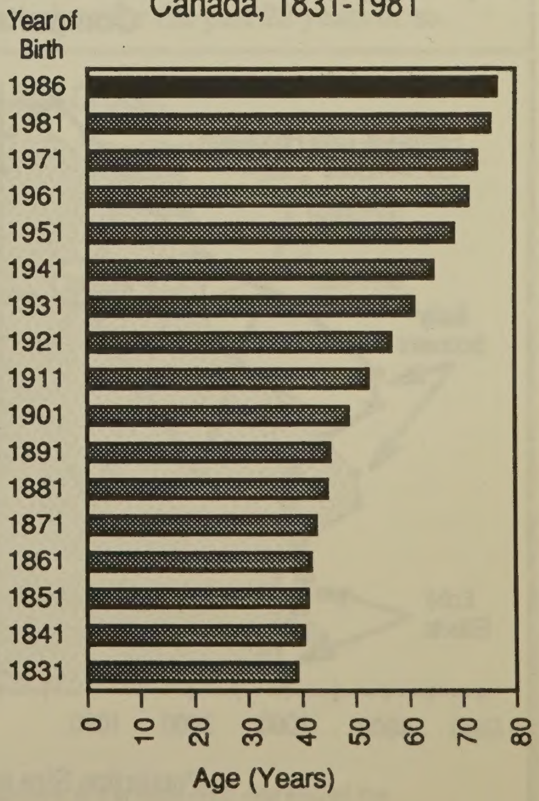
It seems remarkable that at the turn of the century, a person could expect to live less than 50 years (1). For a number of reasons, the life expectancy of Canadians, and Hamilton-Wentworth residents in particular, has continually improved throughout this Century. Now, with health care's increasing high cost technology, the blurring of the definition of "health" to include "social care", and an aging population, we are faced with some tough questions and choices regarding "health" and "quality of life".

But first, what does an "aging population" mean? What will be the impact on our community because of these changes? How does it affect us? And what can we do? This issue of ***Infowatch*** focuses on these questions in the hope that we will better understand and prepare for changes in the population structure of Hamilton-Wentworth residents. We should then be better able to meet the challenges that they will bring.

What Does An "Aging Population" Mean?

We have often heard that we are an "aging population". Simply put, this means that throughout the course of this century, we have both increased our average life expectancy and decreased the average number of children born to us. Let's first focus on the former. As you can see from Chart 1, average life expectancies have continually increased over successive decades for the past 160 years (1). Today, our children can expect to live to about 75 years of age, with females averaging 79 years and males 72 years. So, we are living longer...but are we healthier? This introduces the concept of *"Health-Expectancy"*.

Chart 1. Life Expectancy at Birth, Canada, 1831-1981

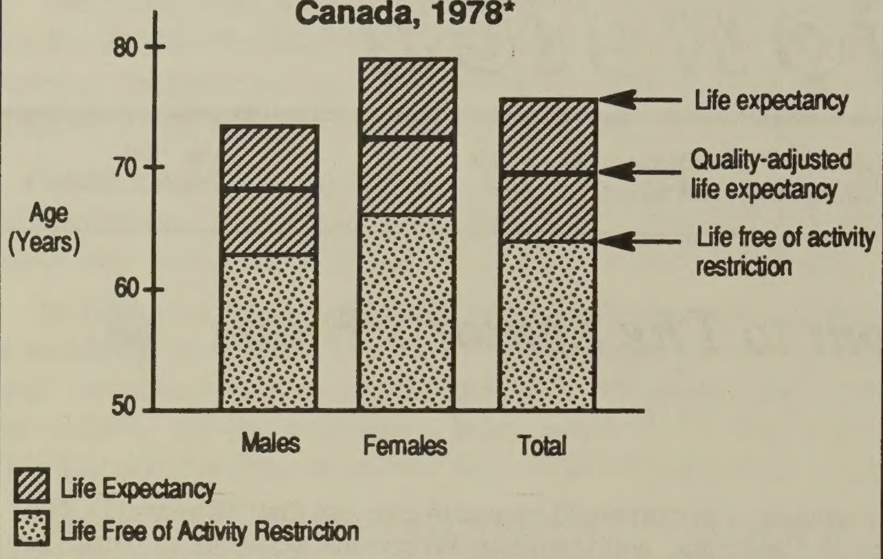


What is Health-Expectancy ?

Since health is essentially a continuum between life and death, there are many ways we can look at the level of health or the "quality of life". Wilkins and Adams (1983) (2) introduced the concept of health expectancy which combines life expectancy in each of several states of health and disability, and a weighted summary known as "quality-adjusted life expectancy" (QALE).

Chart 2 shows, in 1978 for both sexes, that QALE accounted for over 90% of total life expectancy. By age 65 years, one could expect some activity limiting health problem for about half of the remaining years of life.

Chart 2. Health Expectancy in Canada, 1978*



*Adapted from Wilkins and Owens, 1983.

We have already seen that we're living longer, but, while our lives have increased an average of 6 years in the past 25 years (data from 1951-1978), our expected years of disability-free life rose by only 1.4 years (2). Thus, about 75% of our increase in longevity consisted of increased disability expectancy. This is in contrast to the proposed "compression of morbidity" as outlined by Fries (1980) (3). So, we may be living longer, but we may not be healthy for the corresponding time.

How does fertility affect the aging of the population?

The strongest determinant of the age structure of a population usually comes from fertility. In the 20th century, Canada and Hamilton-Wentworth have experienced three peak periods of fertility:

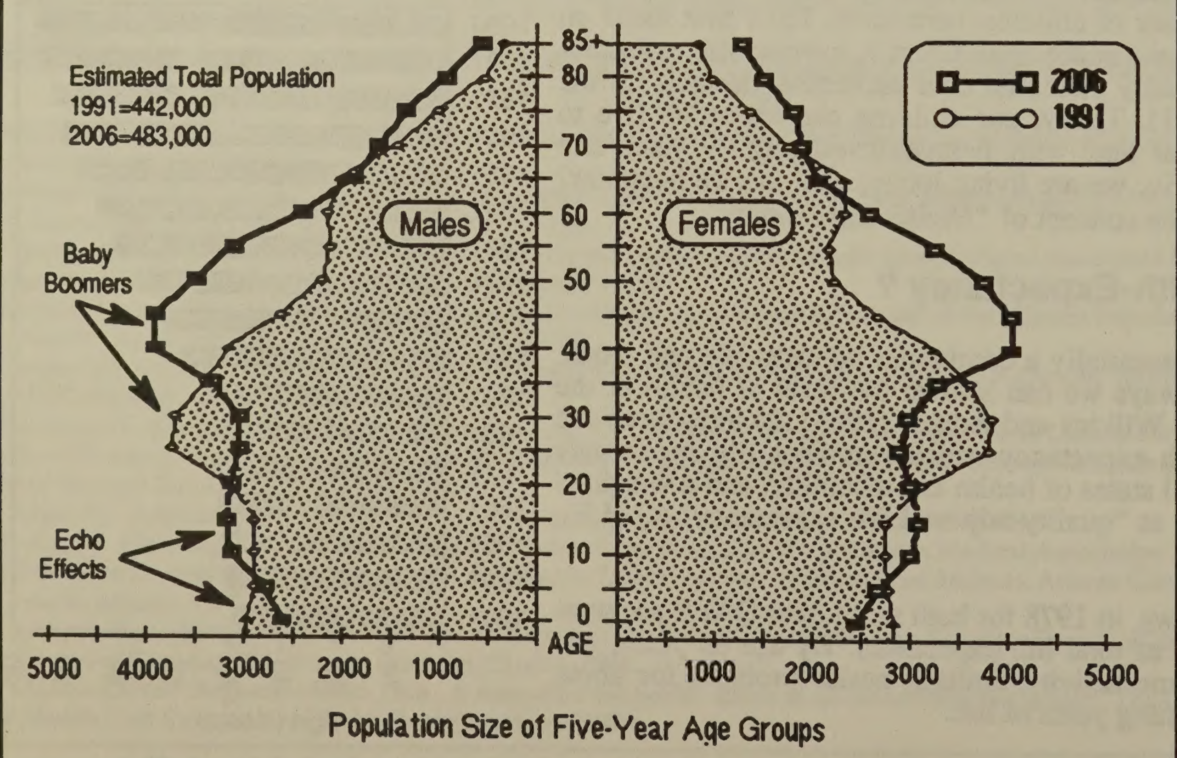
- post-World War I (1920 to 1930)
- post-World War II (late 1940s to early 1960s) (i.e., Baby Boomers)
- children of the baby boomers (late 1970s on) (i.e., echo effects)

In order to see how these birth "cohorts" affect the age-structure, "population-pyramids" over time can be compared. These pyramids show the percent of people in each age group in the community. The dents and bulges show the waves of our population growth over time. Chart 3 shows the projected population pyramids for the years 1991 and 2006 (4).

Looking at the curve for 1991, the bulge at about 60 to 70 years corresponds to the first baby boom after World War I. The most predominant feature, however, is the World War II Baby-Boomers bulge at about ages 30-45 years. The last bulge was followed by a smaller bulge as the Baby-Boomers continue to have children, generally later in life.

Fifteen years from now, in 2006, the post-World War I cohort will increase the percent of very elderly (i.e., 80+ years) substantially. The Baby Boomers will be in the thralls of middle age, watching their children mature and young grandchildren grow.

Chart 3. Hamilton Wentworth Population Pyramids Comparing 1991 and 2006



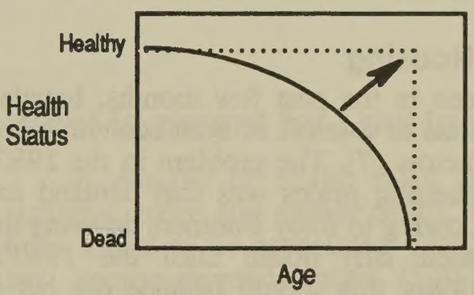
What will be the impact of these changes?

We have just seen that the population is aging as a series of dents and bulges, or waves and troughs. So, in the next 10 years, we can expect increases in the very elderly, middle age Baby Boomers, and adolescents. The magnitude of this increase can be seen in Chart 4 (5). There will not really be much of an increase in the number of seniors until the Baby Boomers reach retirement. As Charts 3 and 4 show, this will not occur until after 2010. However, the growth rate in those 80 years of age and over (the World War I Boomers) will increase dramatically between 2000 and 2010.

$ $ The question arises will health care costs skyrocket accordingly? The answer is that they should not. If we keep in mind the thought of population dynamics, and take a second look at Chart 4, we can see that while the 80+ group has increased, the 70-79 years of age group has decreased. Thus, if resources are continually reallocated as the population ages, then health care costs should remain fairly stable. However, the use of high cost technologies, particularly those with limited or unproven benefit, may continue to eat into the health care dollar as extension of life is sought, rather than maximizing the quality of existing life.

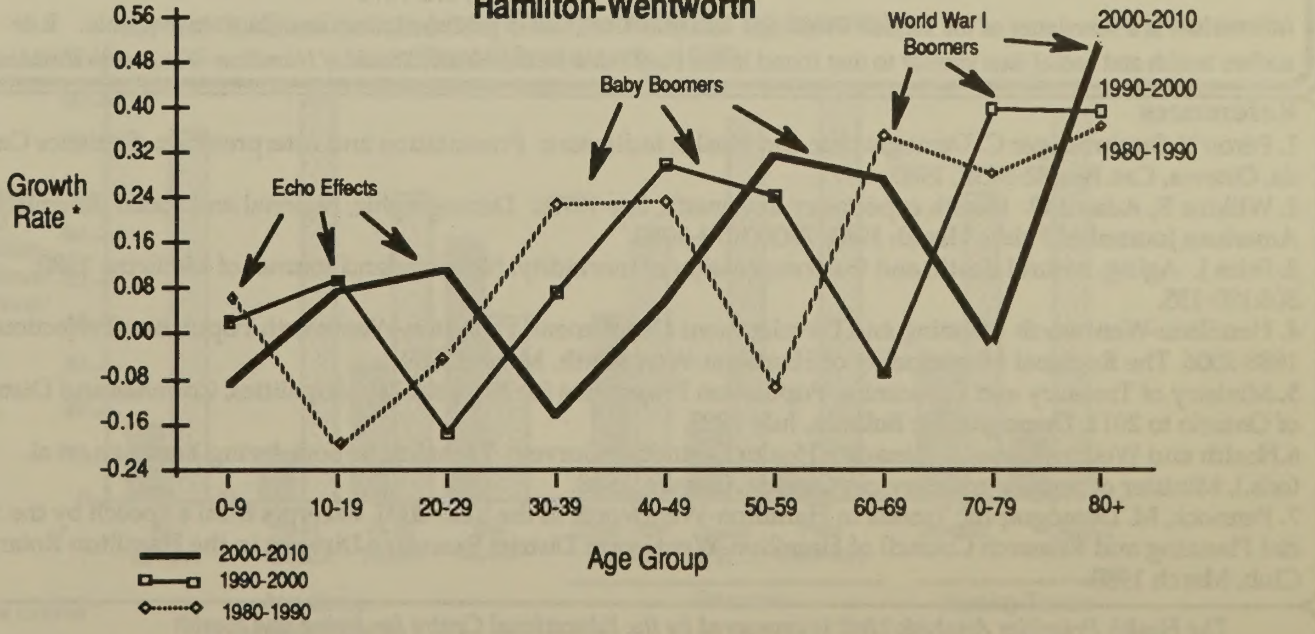
We are also experiencing a great deal more, possibly the greatest, awareness of "health" than we have ever experienced. Might the 25-45 age group, therefore, be healthier seniors? According to Fries (3), the answer is yes. As more and more people participate in "healthy-behaviours" (e.g., quit smoking, exercise more, drink less and not while driving, improve prosperity), then we should reduce morbidity and premature mortality. This is known as *"Compression of Morbidity"*, and, in simple terms, shows that if we practice preventive health behaviours, we should reduce sickness such that we are basically healthy until we die. In other words, the morbidity curve approaches a rectangular shape (see Chart 5).

Chart 5. Compression of Morbidity



At present, we do not know how close to a rectangle the curve is. We do know that more people are living healthy lifestyles at all age groups (6). For example, the 80+ age group has improved its prosperity in later life through pensions (see next page). Given the association between health and income, this can be taken as a positive health indicator. However, our past sexual biases may come back to haunt us as this largely female group has only been able to join pension plans at their workplace for the past 20 years or so.

Chart 4 . Growth Rate per Decade by Age Group, Hamilton-Wentworth



* Growth Rate was calculated by dividing the difference between the populations at the beginning and end of the decade by the populaton at the beginning of the decade.

How will this affect Hamilton-Wentworth?

1. Business

The number of young workers and labour force growth will diminish during the 1990s but, owing to our close proximity to Toronto, our growth will likely be higher than that of the province and country. In particular, the number of middle income jobs is expected to grow in the next 10 years *if* affordable housing remains available. This is because the high cost of living in Toronto will result in that city being home only to the rich and the very poor (7). Thus, the need for job creation will decrease as our growth slows.

2. Housing

As we have seen in the past few months, housing sales will stabilize as a result of both economic and demographic factors (7). The problem in the 1980s causing skyrocketting prices was that demand exceeded supply, owing to Baby Boomers delaying the purchase of their first house until the 1980's. Through the 1990s, this should balance out but is subject to both in- and out-migration to the area. In addition, as the World War I baby boomers become very elderly, and require more supportive care, many of their single-family dwellings will be made available.

3. Family

Single incomes among two-parent families will become increasingly rare in the 1990s. The rate of increase of children will fall over the next 20 years (see Chart 4) which will have implications for the number and size of school classes. Divorce rates are expected to remain steady, or even fall, as the number of people at high risk of divorce (i.e., aged 20-35 years) decrease. Similarly, the crime-prone age-group (18-30 years) will also diminish proportionally (7).

$ $ 4. Money

The investment pool should increase as the middle age Baby Boomers pay off their debts and begin saving for their retirement. The World War I Boomers (the 80+ years group) should generally be in good financial shape owing to the high proportion of retirees covered by private pension plans, and the high number of homeowners. Thus, social security will increasingly become a smaller percentage of a seniors income as they are able to live off the savings and pension plans earned during their lifetime (7).

➡ Now Let's Hear From You ⬅

Your comments and suggestions are important to us and are being incorporated into publications from the Health Priorities Analysis Unit like this ***Infowatch***. Let us know what you think about this issue. Our address and telelphone number are:

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Infowatch

Health Priorities Analysis Unit
McMaster Faculty of Health Sciences

A Service of the Health Priorities Analysis Unit
To Inform People about Research on Health

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Health and Living Below the Poverty Line

What's this issue about?

This issue of Infowatch looks at the relationship between income and health among residents of Hamilton-Wentworth. Information on health and income for residents of Hamilton-Wentworth has only recently been available from results of the 1989 Hamilton-Wentworth Health Survey (H-WHS). This **INFOWATCH** will report on the results of the H-WHS:

- income will be compared with other so-called socioeconomic factors,
- health status will be described for those with low income and those not, and
- what can and is being done about poverty and health.

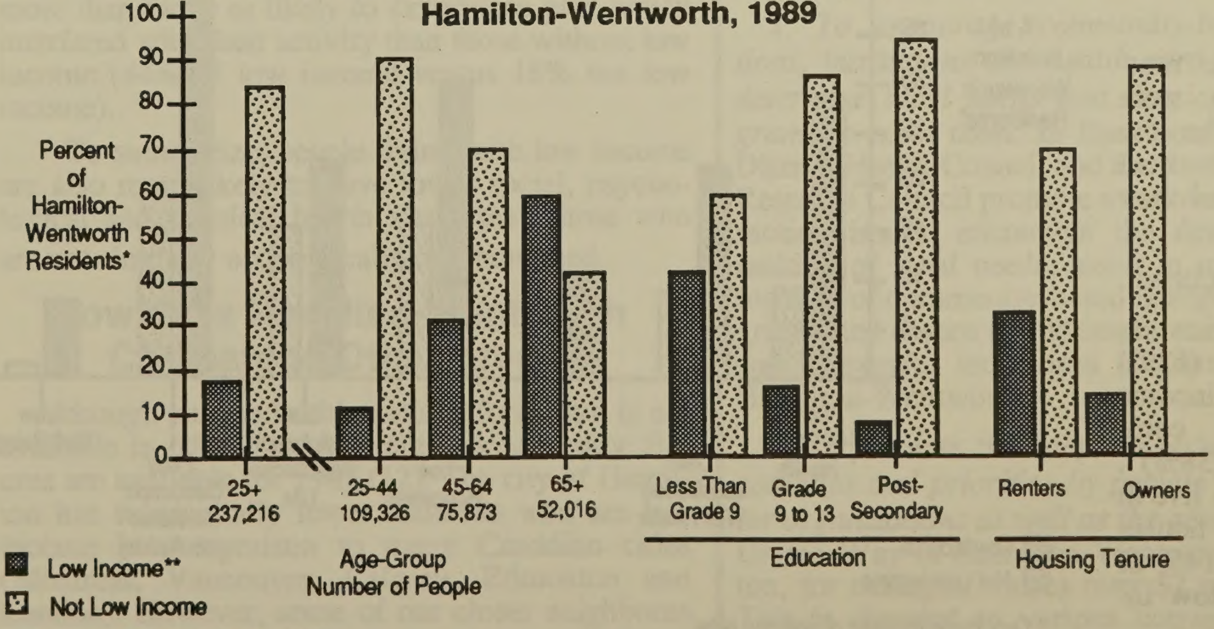
What is meant by Low Income ?

A number of health risks, including greater sickness, more and earlier death, have consistently been found to be associated with low income and low socioeconomic status (1,2). Socioeconomic status is made up of income, education, and occupation. Each single component depends on the others. For example, low income tends to be found among people who have:

- less formal education
- work at "blue-collar jobs", and
- rent versus own their dwelling.

While this **INFOWATCH** focuses on income and health we must remember that these factors also relate to education and occupation (3).

Chart 1. Socioeconomic Characteristics by Income, Hamilton-Wentworth, 1989



* Only those 25 years of age and older.

** Low income is based on the poverty line for 1989 and adjusts for family size (5).

Living Below The Poverty Line

Chart 1 shows the association of these socioeconomic indicators with income for residents of Hamilton-Wentworth (information on occupation was not available in the H-WHS). The definition used for low income is based on the 1989 "poverty line" as estimated by the Canadian National Council on Welfare (4). For example, in Hamilton, the poverty line for a family of four was $24,481 (4). Here, "low income" takes into account the income of the household, the number of people in the household, and the population size of the community (5).

Age and Income

Overall, about 17% of Hamilton-Wentworth residents, 25 years of age and over, are considered low income by the this definition. That is, given the size of their family, about 17% live below the poverty line. By age group, about 11% of those aged 25-44 years are low income earners as compared to more than half (59%) of those over 65 years of age who are in the low income category.

Education and Income

Low income's association with low education is also apparent for Hamilton-Wentworth. Persons 25 years of age and over who had at most an elementary school education were much more likely to be in the low income category (41%) as compared to those with post-secondary education (7%). Income increased for each increase in level of schooling.

Home Ownership and Income

People who rented their home were more likely to be low income earners than those who owned their residences.

Gender and Income

Nearly twice as many women (62%) are in low income households as compared to men (38%) . Of women, 19% live in low income households, whereas 14% of men live with low income.

Health and Living Below The Poverty Line

The H-WHS defined health using a number of standard measures of health which will also be used in the 1990 Ontario Health Survey (6). With the exception of degree of stress, low income earners were consistently worse off with respect to health status than those not in the low income category (see Chart 2).

Self-Rated Health and Income

Self-rated health has been shown to be one of the best predictors of future morbidity and mortality (7,8). In Hamilton-Wentworth, 29% of those with low income reported low self-rated health as compared to 9% by non-low income people.

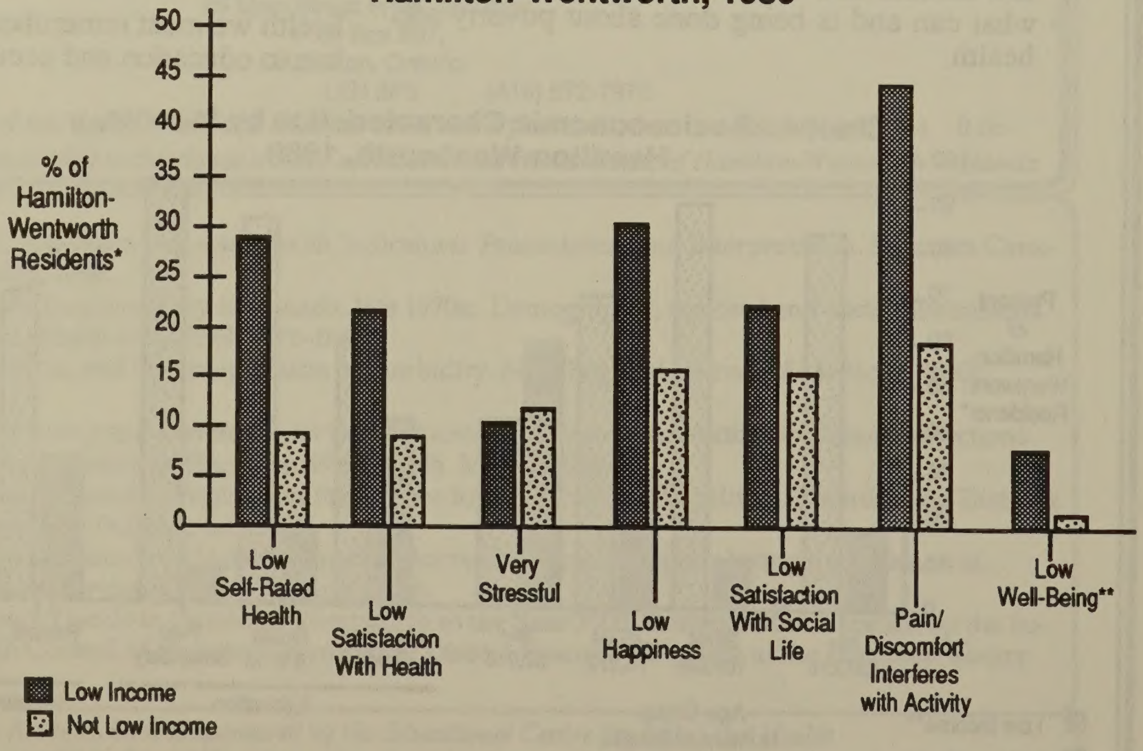
Satisfaction with Health and Income

Like self-rated health, satisfaction with health is another measure of perceived health status. Again, people with low income rated their satisfaction with health as low much more often than did non-low income people (21% versus 9%).

Stress and Income

Stress is often seen as a two-edged sword: stress is needed as a stimulant for activity but too much stress can lead to health problems such as

Chart 2. Health Status by Income, Hamilton-Wentworth, 1989



* Only those 25 years of age and older.

** Low Well-Being is based on a score of 0-12 of the Santé Québec Well-Being Index (11).

heart disease and anxiety (9). A reported high level of stress was about equally split between people with and without low income (10% versus 11%).

Level of Happiness and Income

Happiness is thought to reflect the way people feel about their current state of affairs. Those rating themselves as unhappy have been associated with poorer health (10). Consistent with self-rated health and satisfaction with health, more people with low income reported low happiness (29%) than did people who were not low income (15%).

Satisfaction with Social Life and Income

The level of satisfaction with your social life provides an indication of the availability of a social network. A higher percent of people with low satisfaction with their social life was found for the low income group (22%) as compared to the non-low income group (15%).

Well being

A measure or index developed to examine well-being (11) revealed that people with low income also had lower measures of well-being (8% for people with low income versus 1% not low income). This index includes respondent reports on aspects of energy, control of emotions, morale, stress, quality of relationships, and interest in life, all of which were rated lower by people with low income.

Presence of pain or discomfort which interferes with activity.

When asked about their usual amount of pain or discomfort, persons living with low income were more than twice as likely to experience pain which interfered with their activity than those without low income (44% of low income versus 18% not low income).

To summarize, people living with low income are also more likely to have lower social, psychological and physical health status than those who are not similarly economically overburdened.

How does Hamilton-Wentworth Compare to Other Areas?

Although similar health status information is not available in other Canadian cities, low income figures are available for 1985 (12). The city of Hamilton has substantially fewer residents who are low income in comparison to many Canadian cities (Montreal, Vancouver, Calgary, Edmonton and London). However, some of our closer neighbours (Toronto, Kitchener and Oshawa) have much fewer low income residents.

What May Be Done to Reduce Inequity in Health?

Poverty has been repeatedly linked to poor health status (1,2,3). Despite Hamilton-Wentworth's and Ontario's superior health services, health remains directly related to economic status. This fact has led to new thinking about the "determinants of health" (i.e., the social and physical environment, genetic endowment, individual responses to health (e.g., behaviour and biology) and health care).

Several policy papers (3,13), usually including "health promotion" in their titles, have sought to identify what can be done to reduce the inequalities in health. Several themes arise:

- human rights and citizenship
- mutual aid and voluntary service
- consumer participation
- strengthening communities
- knowledge development
- coordinating policy.

Goals for Hamilton-Wentworth

Three policy goals are proposed for Hamilton-Wentworth as part of a strategy to reduce the health inequalities between high and low income groups.

1. To co-ordinate the integration of health promotion ideas into policy, planning and service delivery. For example, the recently established Regional Chairman's Sustainable Development Task Force could encourage the consideration of program funding, incentives, taxation, and regulation and their impact on the determinants of health, lifestyle and environment.

2. To encourage community-based organizations, institutions and health care practitioners to determine local needs and develop effective programs to meet them. In Hamilton-Wentworth, the District Health Council and the Social Planning and Research Council promote awareness of health promotion issues, encourage the determination and ranking of local needs, assist in measuring effectiveness of community-based health promotion programs, and ensure that ideas, information, expertise and successful techniques are shared throughout Hamilton-Wentworth.

3. To promote the adoption of health promotion activities and priorities by private and public sector organizations as well as the general public. The United Way in Hamilton-Wentworth and Burlington, for example, raises over $7 million annually. This is directed to various community programs and agencies, most of which are targeted at low socioeconomic groups.

1989 Hamilton-Wentworth Health Survey - Methods

The 1989 H-WHS originated as a pre-test for the 1990 Ontario Health Survey (OHS) and was conducted during the month of May, 1989. The goal of the OHS, and this pre-test was to gather baseline population data on the determinants of health and the physical, mental, and social health of the residents of Ontario.

Data were collected by both an interview (IAQ) and a self-administered questionnaire (SAQ). The IAQ involved gathering data on all members of a household from a single knowledgeable member of the household, while the SAQ was left for each member of the household who was at least 12 years of age and over to fill out and mail back to the study centre. Whenever possible, questions used in the survey were abstracted from previously administered surveys to ensure comparability. The sample of the H-WHS included 896 people who completed the IAQ (response rate = 86%), and 603 persons who completed the SAQ (response rate = 67%). Only those completing both questionnaires and who were 15 years of age and over were included in the analysis resulting in 578 subjects, with slightly over half being female (56%). With this sample size, estimates are correct within 3 to 4 percentage points, 95 times out of 100. A comparison of these respondents with the 1986 Census data for Hamilton-Wentworth residents revealed no differences on variables such as sex, income, and education. (H-WHS respondents were slightly older than that reported by the Census). For the analysis by income, only respondents 25 years of age and over were included.

The preparation and field work of the H-WHS was funded by the Province of Ontario through the Ontario Ministry of Health and was conducted by Statistics Canada. See Chambers and Reynolds (5) for a full report on the survey methods.

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Infowatch

Health Priorities Analysis Unit
Faculty of Health Sciences
McMaster University

A Service of the Health Priorities Analysis Unit
To Inform People about Research on Health

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Cigarette Smoking in Hamilton-Wentworth

Hamilton Butts Out?

What's this issue about?

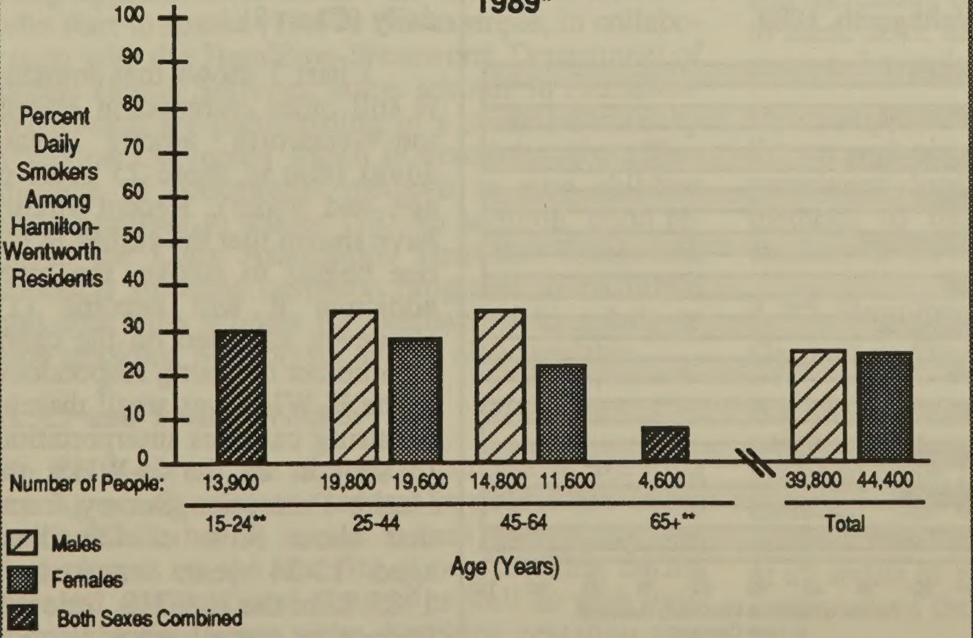
Overwhelming research evidence shows that inhaling cigarette smoke, your own or someone else's, increases your risk of illness and premature death (1). Yet millions of people smoke, exposing themselves (and others) several times daily to chemicals which cause heart disease and cancer. So, why don't they quit? Among many reasons, smoking is an addiction. Therefore, when a person stops smoking, he/she will experience physical and psychological symptoms that are not pleasant (1).

Nevertheless, in recent years, through vigorous health promotion campaigns the number of smokers has decreased in the 1980's (2). This INFOWATCH uses results of the 1989 Hamilton-Wentworth Health Survey (H-WHS), and focuses on how many citizens of Hamilton-Wentworth smoke, the characteristics of these smokers, and how our smoking rates compare to other regions of Canada. In addition, information on current programs and methods aimed at reducing smoking will be discussed.

Who Smokes?

About 1 in 4 residents of Hamilton-Wentworth, over the age of 15, smoke daily (see Chart 1). Here, "smokers" refers to daily smokers. Overall, this is roughly evenly split between males and females. However, the pattern by age is different between the sexes, with female smokers tending to be younger than male smokers (data not shown in Chart). More young women smoking than young men has been observed in a number of recent studies (4) and has resulted in an increase in the occurrence of lung cancer in females (5). In the 1990's, death rates for lung cancer in females may surpass those for breast cancer (5,6).

Chart 1. Daily Smokers by Age and Sex, in Hamilton-Wentworth, 1989*



* 1989 Hamilton-Wentworth Health Survey (3).

**Males and females were combined for these age groups owing to small numbers. Figures should be used cautiously.

Smoking among people 65 years of age and over is quite low (7%). There are fewer smokers than in younger age groups, in part because many of the smokers will have already died from smoking-related illnesses such as cardiovascular diseases, cancers of the lung, mouth and upper respiratory tract, bronchitis, emphysema, and others (1,7).

Smoking and ...

Smoking is widespread throughout our culture. While at one time the social image of smokers was glamorous, now smoking is less often socially acceptable. The recognition of the harmful effects of smoking has convinced many people to quit. Occasional smokers (less than daily) are grouped with non-smokers.

... Marital Status

Married people are less likely to be smokers (22%) than people who are single (27%) or who were previously married (34%) (see Chart 2). A higher percent of smoking among separated, widowed and divorced people has been found elsewhere (8). It has been suggested that these people may be more economically disadvantaged, and less motivated to improve their health (see August 1990 INFOWATCH).

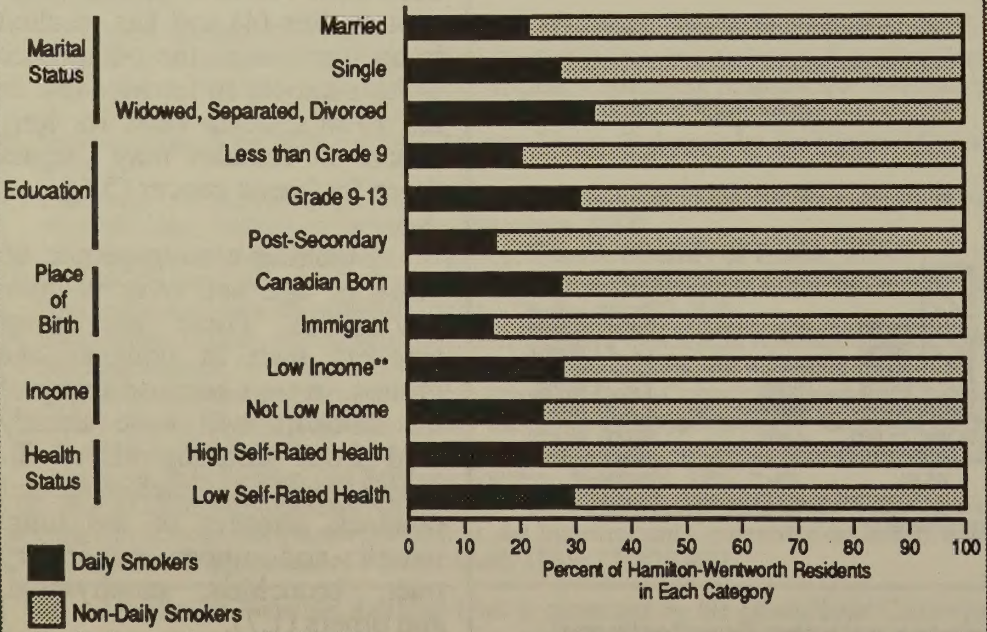
... Education

Citizens with post-secondary education are less likely to be smokers (16%), than those whose highest level of education is between grades 9 and 13 (31%) (see Chart 2). Those with less than grade 9 education are in the middle with 21% smoking. This pattern has been observed in other surveys (7).

... Immigrant Status

More Hamilton-Wentworth residents who were born in Canada smoke than do immigrants to this country (29% versus 19%, respectively) (see Chart 2). The reasons for this are not clear.

Chart 2. Characteristics of Smokers versus Non-Smokers*, Hamilton-Wentworth, 1989



*Non-Smokers contains occasional smokers.

** Low Income is based on the poverty line for 1989, and adjusts for family size (3).

... Income

Citizens living in low income households (28%) smoked slightly more than those not living in low income households (24%) (see Chart 2). Low income was based on 1989 poverty line estimates, and accounted for family size and the population size of the community (2,9). However, the very poor (based on a Statistics Canada index) (10), smoked more than any other category (38.1% for males and 58.2% for females) (not shown in Chart 2). This confirms the findings of a national survey which was conducted in 1985 (10).

... Self-Rated Health

Citizens who rate their health as fair or poor are more likely to be smokers (31%) than those who rate their health to be good or excellent (24%) (see Chart 2).

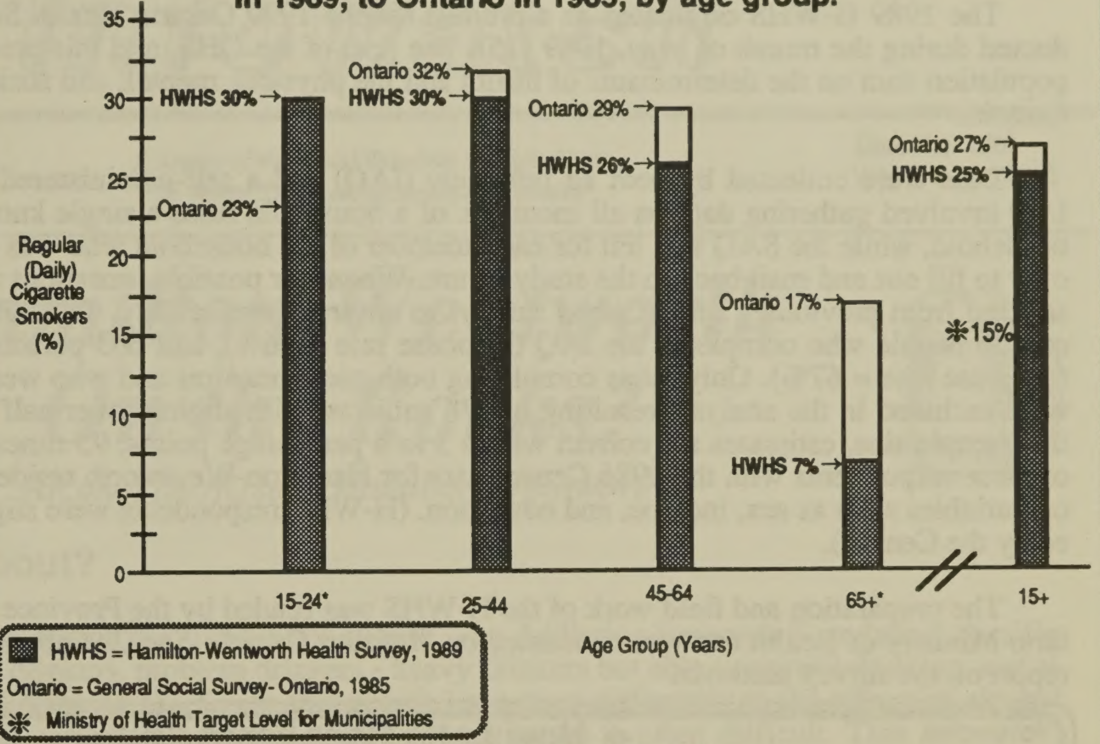
Do Residents of Hamilton-Wentworth Smoke More or Less Than Other Areas?

Tobacco consumption in Canada has been decreasing throughout the 1980's, and, in 1989, the largest drop ever in per capita tobacco consumption was recorded (3). Along with this, the percentage of smokers has been decreasing. For example, the 1978-1979 Canada Health Survey reported that 37% of Canadians smoked cigarettes daily (11). By 1985, the Canadian General Social Survey reported 30% of Canadians and 27% of Ontario residents smoked daily (12). The 1989 Hamilton Wentworth Health Survey (H-WHS) reported that 25% of residents smoke daily (Chart 3).

Chart 3 shows that smoking is still quite common in Hamilton-Wentworth among young adults (that is, those 25 years of age and under). Recent studies have shown that the earlier in life one begins to smoke, the more addictive it will become (1). However, as noted on the chart, the number of young respondents to the H-WHS was small thereby requiring cautious interpretation. In support of the H-WHS, the Health Promotion Survey found that about 35% of Canadians aged 15-24 years smoked in 1985. Like the H-WHS, little difference in overall smoking rates was observed between those 15-24 years and those 25-44 years.

Seniors in Hamilton-Wentworth were less likely to be smokers than any other age group. This may be due to higher quitting rates among seniors or, more likely, a higher proportion of smokers than non-smokers have died in the 65 years and over age group (1). However, seniors like younger groups, have less disease and live longer if they stop smoking (1).

Chart 3. Comparison of the number of smokers in Hamilton-Wentworth in 1989, to Ontario in 1985, by age group.



* These percentages were based on small numbers, and should be interpreted cautiously.

What can/is being done to reduce smoking in Hamilton-Wentworth?

Three major areas are being targeted to try to reduce the number of smokers in Hamilton-Wentworth. These are:

1. 🚭 and Children

The younger children begin smoking, the more difficult it is for them to stop (13). As schools include more smoking prevention material in to their curriculae, and legislation prohibiting the sale of tobacco products to minors is enacted, studies are also examining approaches to reduce the number of children who start to smoke (13,14). For example, in collaboration with the Hamlilton-Wentworth Department of Public Health Serivces, some schools in Hamilton-Wentworth are participating in a study initiated by Waterloo University which is examining the effectiveness of educational methods to stop children from begining to smoke (13). In addition, upon request, the Lung Association Hamilton-Wentworth conducts smoking cessation programs in Hamilton and area high schools for students seeking help to stop smoking. Support for staff is also available.

2. 🚭 and Young Women

To try to curtail the alarming increase in smoking among young women, several strategies are being used. Public health nurses inform prospective and new parents on the benefits of non-smoking during prenatal and postnatal classes, as well as with individuals during home visits. Smoking cessation programs are encouraged and utilized by a wide range of community groups, businesses, and institutions.

3. 🚭 Legislation

Within Hamilton-Wentworth, some by-laws have been implemented and others proposed with the aim to reduce exposure to smoke in the workplace and in public places. In addition, licensing of stores selling tobacco products, the enforcement of laws prohibiting the sale of tobacco products to minors, and increasing the associated fines for not adhering to these laws, are a few of the regulatory methods proposed to reduce the availability of cigarettes.

Nationally, the increase in tax, the requirement to list tar and nicotine content, and the larger, more prominent display of warnings on packages, are methods to reduce smoking as well as inform smokers of the hazardous effects of their habit.

4. 🚭 Hamilton-Wentworth Interagency Council on Smoking and Health

An association of agencies involved in the campaign against smoking, the Council carries out programs to attain a smoke-free enviroment. Examples include: the community-wide arrangements for National Non-Smoking Week, legislative lobbying at all levels of government, and heightening public awareness of the health hazards of tobacco use.

For further information about any of the above activities, please call us at 546-3620.

1989 Hamilton-Wentworth Health Survey - Methods

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The preparation and field work of the H-WHS was funded by the Province of Ontario through the Ontario Ministry of Health and was conducted by Statistics Canada. See Chambers and Reynolds (3) for a full report on the survey methods.

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Infowatch

Health Priorities Analysis Unit
Faculty of Health Sciences
McMaster University

A Service of the Health Priorities Analysis Unit
To Inform People about Research on Health

December 1990
Volume 2, Number 5

Hamilton-Wentworth On the Rocks?

Alcohol (Ab)Use in Hamilton-Wentworth

What's this issue about?

Alcohol consumption is widespread throughout our culture. The Addiction Research Foundation classifies people as abstainers, social drinkers, problem drinkers - heavy drinkers but able to control drinking, and alcoholics - unable to control drinking (1). Given that people have react differently to the effects of alcohol, assessing where people and communities stand along this continuum is often difficult. This ***Infowatch*** uses results of the 1989 Hamilton-Wentworth Health Survey (H-WHS) to examine alcohol abuse in Hamilton-Wentworth.

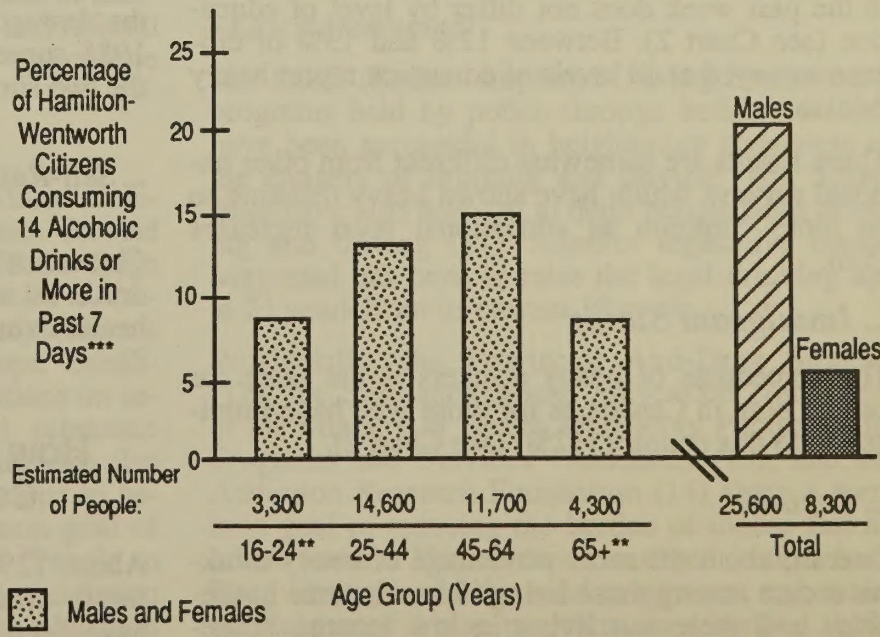
Who Drinks?

An estimated 81% of Hamilton-Wentworth citizens report drinking in the past year, roughly evenly split between males and females. However, the amount of alcohol consumed differs significantly between the sexes (see Chart 1).

Overall, about 1 in 17 females (6%) consumed 14 drinks or more in the past week. In contrast, about 1 in 5 males (20%) report to be such heavy drinkers. Here, "heavy drinkers" are defined as those consuming 14 drinks or more in the past week. Males between the ages of 25 and 64 are most commonly found to be heavy drinkers. Across every age group, more males are found to be heavy drinkers than females (not shown in Chart 1).

A similar number of citizens are alcoholics and/or have binged on 10 or more drinks in the past year (2). In contrast, estimates of heavy drinkers using alcohol sales data (23%) are somewhat higher than those reported

Chart 1. Percentage of Heavy Drinkers Among Hamilton-Wentworth Citizens, by Age or by Sex, in 1989*



* In the 1989 Hamilton-Wentworth Health Survey (3), "heavy drinkers" are defined as drinking 14 drinks or more in the past seven days.
** These percentages are based on small numbers and should be interpreted cautiously.
*** See Figure 1 for the definition of a drink.

Heavy Drinking and ...

People choose to drink alcohol for a number of reasons (e.g., pleasure, socializing, relaxation, escape). However, excess alcohol consumption can result in a variety of social and mental problems (for example, family, employment, legal, financial and interpersonal difficulties) as well as physical problems (for example, injuries at work, during sports, and from traffic injuries, alcoholic liver disease, inflammation of the pancreas, gastrointestinal illnesses, brain and nervous system problems, cardiovascular problems, and anemia (low blood)).

The characteristics of heavy drinkers, that is those consuming 14 drinks or more in the past seven days, is examined here for Hamilton-Wentworth citizens. The definition of one drink is shown in Figure 1.

... *Marital Status*

About 9% of Hamilton-Wentworth citizens who are married are estimated to be heavy drinkers (see Chart 2). This rises to nearly 15% of singles and 22% of citizens who are widowed, separated or divorced. In the case of separation and divorce, it is unknown whether this level of drinking was the cause of, or resulted from, the breakup of the marriage. The Addiction Research Foundation (3) reported that in 1985, 880 (1.4%) divorces granted in Canada listed alcohol-problems as the grounds.

... *Education*

The percentage of people drinking at least 14 drinks in the past week does not differ by level of education (see Chart 2). Between 12% and 13% of citizens surveyed at all levels of education report heavy drinking.

These results are somewhat different from other national surveys which have shown heavy drinking to be more common as educational level increases (5,6).

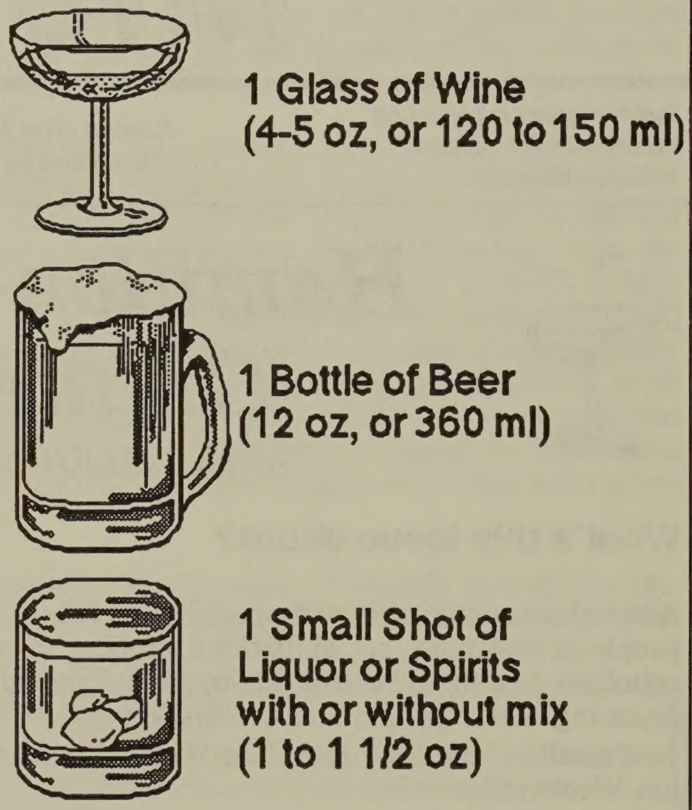
... *Immigrant Status*

The percentage of heavy drinkers is the same for people born in Canada as for those who have immigrated to this country (12%) (see Chart 2).

... *Income*

Overall, about the same percentage of heavy drinkers occurs among those living in low income households and those not living in low income households (12% and 11% respectively) (see Chart 2). Low income is based on 1989 poverty line estimates, and accounts for family size and the population size of the community (3,7).

Figure 1. 1 Drink is Equal to:



These categories, however, may not be fine enough to see an association with income. For example, using more income groups, the 1985 Health Promotion Survey of Canada (5) found that the highest percent of heavy drinkers was among those in the middle and middle-high household income group. The lowest and the highest income groups reported the lowest percentage of heavy drinking in the 1985 survey. Unfortunately, due to differences in the two survey, comparisons were not possible.

... *Self-Rated Health*

Citizens who rate their health as "fair" or "poor" drink as heavily (14%) as those who rate their health to be "good" or "excellent" (12%) (see Chart 2).

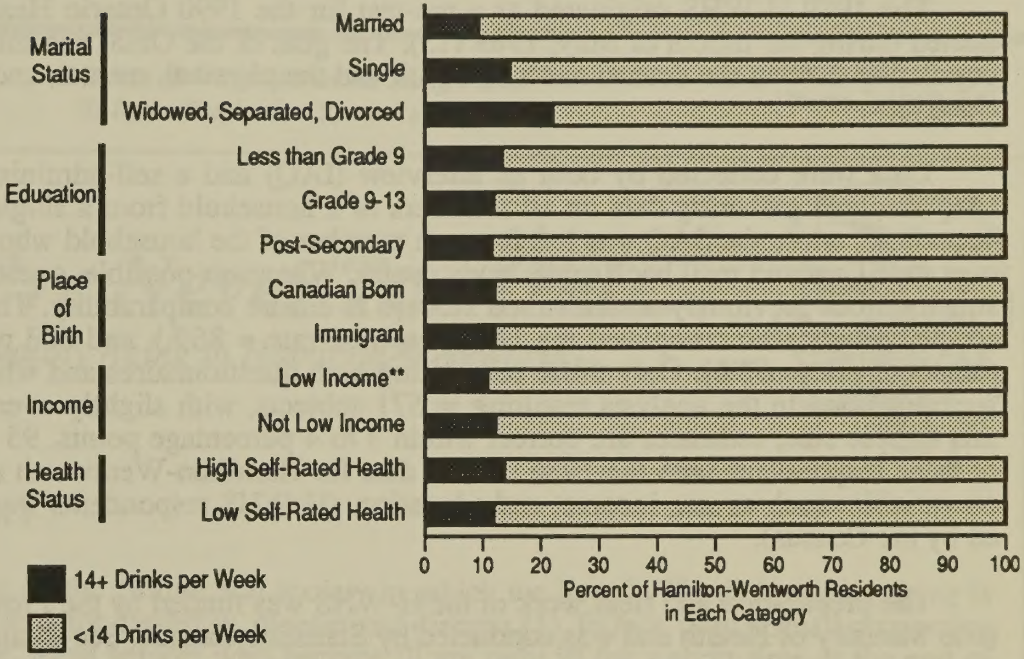
How does Hamilton-Wentworth Compare to Other Areas?

About 12% of Hamilton-Wentworth residents are heavy drinkers. Between 8% and 12% of people have been reported to be heavy drinkers in other surveys in Canada (6), Ontario (6) and Québec (8). The much higher percentage of males reporting heavy drinking has also been consistently observed in all these surveys.

Problems With Acting on Health Findings

Unlike other health risk behaviours (for example, smoking), many of the characteristics of heavy drinkers do not differ from those of non-heavy drinkers. Males, and possibly marital status, were the only two "risk factors" found here for heavy drinking (see Charts 1 and 2). Therefore, it is difficult to identify people who have a drinking problem, and people who are going to develop a drinking problem. As a result, strategies to reduce heavy drinking tend to be aimed at a very broad audience.

Chart 2. Characteristics of Heavy Drinkers* versus Non-Heavy Drinkers, Hamilton-Wentworth, 1989



* Heavy drinkers is defined as those consuming 14 drinks or more in the past 7 days.

**Low income is based on the poverty line for 1989, and adjusts for family size (3).

What May Be Done to Reduce Heavy Drinking in Hamilton-Wentworth?

Several strategies are being investigated to reduce the number of people who abuse alcohol. These strategies include prevention, treatment and support services, and law enforcement. In addition to these services, family physicians can play an important role by increasing their patients' awareness of alcohol, as well as assisting in the detection and referral of people with alcohol problems to the appropriate community services (9).

• *Prevention:*

The Hamilton-Wentworth Substance Abuse Community Action Group has recently been formed with the goal to promote non-use of illicit drugs and non-risk use of legal substances. Each November, Drug and Alcohol Awareness Week offers a variety of activities including workshops, exhibitions of treatment services, and presentations on select topics (for example, seniors and substance abuse). Many other projects and programs are also underway, ranging from local action groups to nation-wide organizations, with the common goal of reducing problem drinking (e.g PRIDE (People to Reduce Impaired Driving Everywhere), Addiction Research Foundation, drug and alcohol education in all three Hamilton Boards of Education).

• *Treatment and Support Services*

Many treatment and support services are available to people who recognize their drinking problems, or for those who are trying to cope with a close friend or relative who has a drinking problem. A brochure that lists all detoxification, assessment, and treatment programs in Hamilton-Wentworth is available from the Hamilton Centre of the Addiction Research Foundation.

• *Law Enforcement*

The RIDE (Reduce Impaired Driving Everywhere) programs held by police through holiday seasons have been successful in heightening awareness of the dangers of drinking and driving (10). Stiffer fines have also been set to deter people from drinking and driving (11). Another legislative option suggested has been to raise the legal drinking age to 21 years from its current 19 years.

Provincially, the Provincial Anti-Drug Strategy (12), the Substance Abuse Prevention component of the Ministry of Health Mandatory Public Health Programs and Services Guidelines (13), and the Addiction Research Foundation (14) share a common goal of reducing the burden of illness that alcohol fosters. The methods outlined in the Anti-Drug Strategy, and the need to measure and evaluate Substance Abuse programs as described in the Mandatory Health Programs Guidelines requires a cooperative approach among community, government and education agencies to reduce alcohol abuse.

1989 Hamilton-Wentworth Health Survey - Methods

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Infowatch

Health Priorities Analysis Unit
Faculty of Health Sciences
McMaster University

A Service of the Health Priorities Analysis Unit
To Inform People about Research on Health

March 1991
Volume 3, Number 1

You're Never Too Old...

(Healthy Aging in Hamilton-Wentworth)

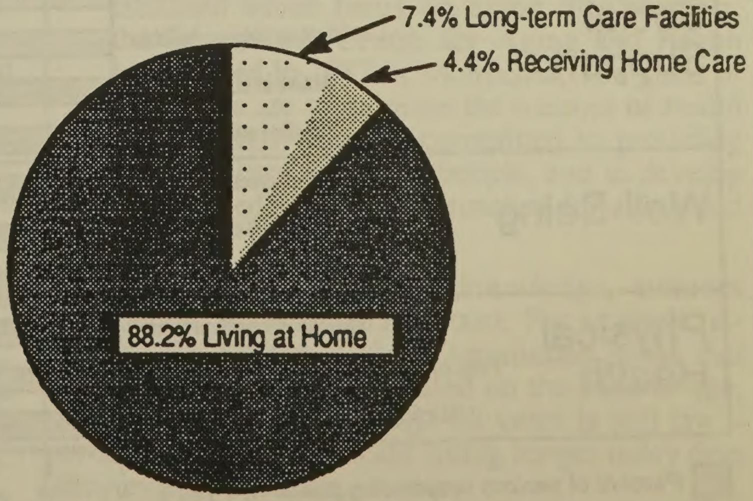
What's This Issue About?

Views on aging differ depending on the culture and society in which we live. In North America, aging is often incorrectly thought of as a time for disability, disease and distress (1). In fact, only a small proportion of seniors are ill at any one time. Most seniors who become ill are only ill for a short time at the end of their lives (2). The majority of seniors are as healthy as their younger counterparts. This ***Infowatch*** reports on the results of the 1989 Hamilton-Wentworth Health Survey (H-WHS) which found that the majority of seniors in Hamilton-Wentworth are healthy too.

How Many Seniors Live at Home in Hamilton-Wentworth?

In 1989, there were about 56,680 persons who were 65 years of age and over (that is, seniors) living in Hamilton-Wentworth (3). This represents about 13.1% of the total population of Hamilton-Wentworth. About 50,000 or 93% of seniors lived at home (see Chart 1). About 4,200 live in long-term care facilities (4). About 2,500 of those living at home receive Home Care from the Hamilton-Wentworth Home Care Program at any one time (5).

Chart 1. Estimated Percentage of Seniors Living at Home, Receiving Home Care, and Living in Long-term Care Facilities in Hamilton-Wentworth, 1989*.



*Estimated from population projections (3), results of the Health and Activity Limitation Suvey (4,5), and the number of Home Care clients (6).

How Healthy are Our Seniors?

Using the H-WHS and focusing only on the 92.6% of seniors living at home, "health" was measured in a variety of ways:

- lifestyle factors such as smoking, alcohol, and physical activity;
- socioeconomic status;
- social support and satisfaction;
- self-rated health and well-being;
- physical health as related to chronic illnesses and medication use.

In order to look at how healthy seniors are in Hamilton-Wentworth, we look at the positive side of each of these characteristics, all of which have been shown to influence health (see Chart 2).

Lifestyle

Alcohol

Nearly 92% of seniors reported drinking less than 14 drinks in the week prior to the H-WHS (see Chart 2).

Cigarette Smoking

About 91% of seniors reported to be non-smokers at the time of the survey (see Chart 2).

Physical Activity

Weekly physical activity (other than household chores) was reported by 70% of seniors (see Chart 2). Overall, walking and exercise at home were reported to be the most common forms of physical activity among seniors (84% of seniors walked and 40.1% exercised at home) (7).

$$$ Wealth

Income Level

55% of seniors are estimated to live above the poverty line (6,8). The 1989 poverty line estimate took into account both the size of the family, and the population size of the community. While this may seem low, for most seniors household income is limited to pension and interest incomes. Total assets (for example, total investments and owning their home) are not considered here in the poverty line estimate.

Own Home

Almost four out of five seniors live in their own home or in homes of their families (78%). Only 22% are renters.

Social Support

Contact with Friends and Relatives

About 92% of seniors said that they had visits with friends or relatives at least once a month (see Chart 2). Further, three out of every four seniors (75%) reported that this contact was at least weekly.

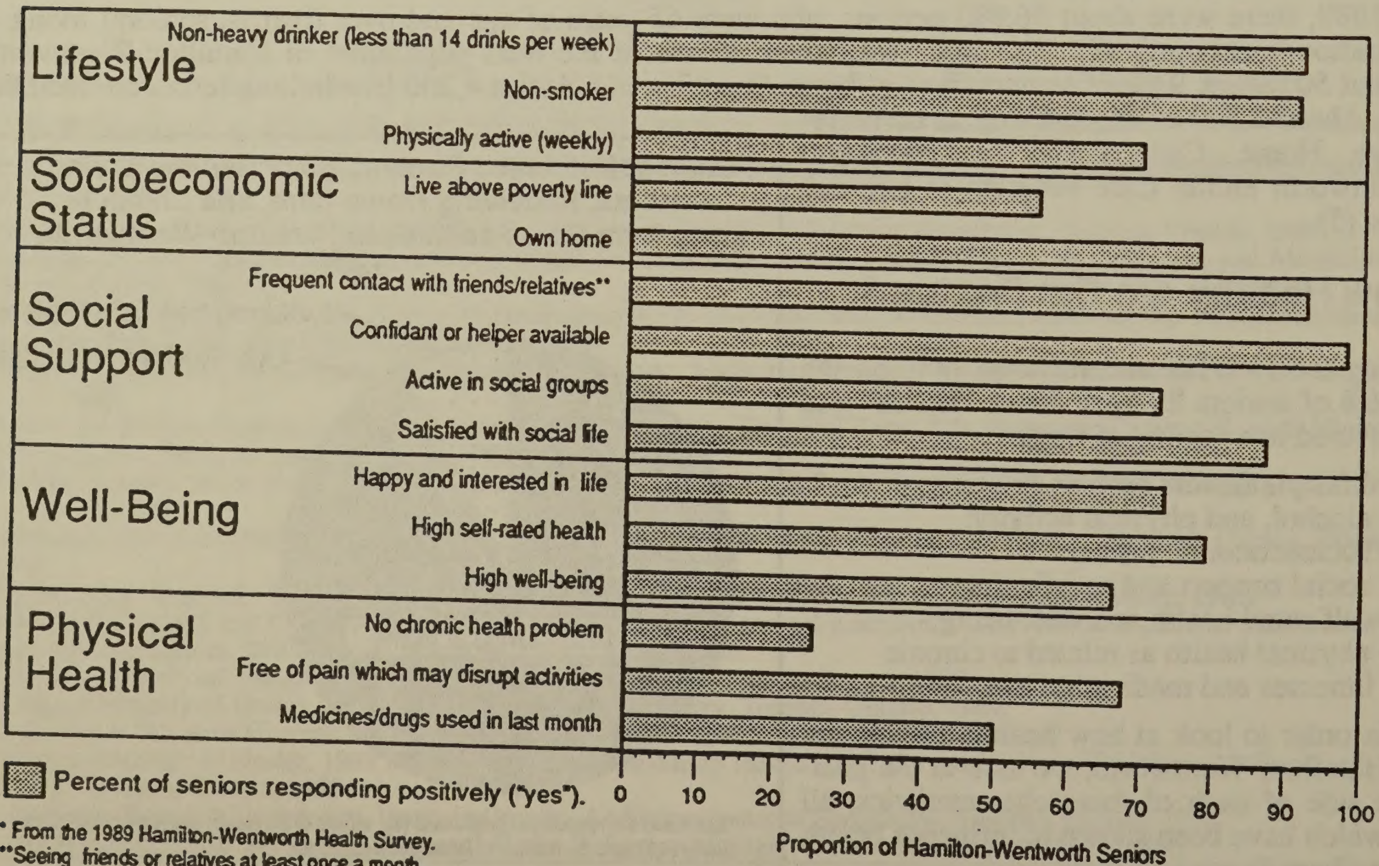
Confidant or Helper

Nearly all seniors (96%) said that they had a close friend or relative to whom they could confide in and talk freely about their problems. In addition, 92% of seniors reported that there was someone they could depend on to help them if it became necessary.

Social Groups

Three out of four seniors (73%) belonged to at least one of the following groups: social or recreational groups, a labour union, a commercial group or professional organization, religious groups, groups concerned with children, community service, chari-

Chart 2. Health of Seniors in Hamilton-Wentworth, 1989*



* From the 1989 Hamilton-Wentworth Health Survey.

**Seeing friends or relatives at least once a month.

ty or neighbourhood improvement groups, or groups concerned with the environment, human rights or peace.

Satisfaction with Social Life

High satisfaction with their social life was reported by 87% of seniors.

Well-Being

Happiness

Seventy-three percent of seniors said that they were extremely or generally happy with life as compared to 27% who said they were somewhat happy, generally unhappy or very unhappy with life.

Feeling Healthy

Almost four out of five seniors (79%) considered their health to be good or excellent given their age. This is particularly important because people's perception of how good their health is, has been found to be a good predictor of future illness and death (8-12).

Well-Being

An index developed to reflect well-being showed that 66% of seniors reported medium to high levels of well-being (13).

Physical Health

Chronic Conditions

No chronic health problems were reported by 25% of seniors. Chronic conditions here included at least one of the following: skin allergies, diseases, hay fever or other allergies, back pain, arthritis, rheumatism, joint or bone problems, paralysis or speech problems due to a stroke, asthma, emphysema, chronic bronchitis, persistent cough, epilepsy, high blood pressure, hypertension, heart disease, diabetes, urinary problems, kidney disease, stomach ulcer/other digestive problems, goitre, thyroid trouble, migraine, recurring headaches, or cancer.

Free of Pain which Interferes with Activities

Even though 75% of seniors may have a chronic condition, 73% of seniors are able to go about their activities without being disrupted with pain.

Medication Use

Half of seniors (50%) said that they had taken some kind of medicine or drug in the past 30 days including aspirin, pain relievers, tranquilizers, sleeping pills, stomach remedies or laxatives, antidepressants, codeine, demerol, morphine, allergy medications, cough or cold medicine, antibiotics, heart or high blood pressure pills. The most common medicines were aspirin and pain relievers (67%), or heart/high blood pressure pills (42%). Although medication, when used properly, can improve health, it is hoped that some day seniors can live both healthy and medication-free. Therefore, we present in Chart 2, the percentage of seniors who are medication-free (50%).

Let's Get a More Accurate Picture on Aging and Seniors

The results of the H-WHS, as with national surveys (for example, the 1978-1979 Canada Health Survey, 1985 Health Promotion Survey and the 1985 General Social Survey) show that most seniors are in good health mentally, physically, and socially. The goals of working with older people should include building on their capabilities, helping them to do things for themselves, and allowing them to achieve their full potential – goals which are common to all ages.

- In recognition of the very large proportion of seniors who are well, programs should be directed at these groups. For example, in Hamilton-Wentworth, social-recreation programs are available for seniors at Seniors Housing Centres and Clubs.
- Health promotion activities targeted at younger groups must be extended to older groups as well. For example, healthy lifestyle programs such as smoking cessation benefit people of all ages.
- More awareness about seniors should be a goal of education programs in both public schools and universities. For example, educating medical students about seniors has been shown to produce a positive effect on their attitudes towards seniors (14).
- Education and research programs must be established which focus on aging. For example, the Educational Centre for Aging and Health was created in 1987 at McMaster. The goals of the Centre are to increase the number of health professionals who are committed to providing excellent care for aging people, and to develop effective educational approaches for aging and health.

Many barriers to changing knowledge, attitudes and beliefs about aging still exist. For example, although the Human Rights Commission states that people cannot be discriminated on the basis of age, mandatory retirement at age 65 years is still law – even though Canadians are living longer today than they ever have before.

Lastly, although most seniors are quite healthy, we must not forget about the 6,700 seniors who are receiving health care daily in Hamilton-Wentworth.

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For the analysis of seniors' health, 116 respondents who were 65 years of age and over were included (mean age 72 years). With this sample size, estimates are correct to within five percentage points, 95 times out of 100. Because questions on low income, the well-being index, heavy drinking and contact with friends were not answered by about 25% of respondents, estimates are correct to within 11 percentage points, 95 times out of 100.

The preparation and field work of the H-WHS was funded by the Province of Ontario through the Ontario Ministry of Health and was conducted by Statistics Canada. See Chambers and Reynolds (3) for a full report on the survey methods.

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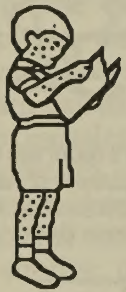
The Health Priorities Analysis Unit is sponsored by the Educational Centre for Aging and Health which was established in 1987 with funding from the Ontario Government. Support is also received from the Faculty of Health Sciences, McMaster University, and the Hamilton-Wentworth Department of Public Health Services.

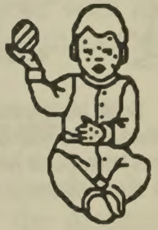
Infowatch

Health Priorities Analysis Unit
Faculty of Health Sciences
McMaster University

A Service of the Health Priorities Analysis Unit
To Inform People about Research on Health

June 1991
Volume 3, Number 2





Spot-light on Measles

in Hamilton-Wentworth

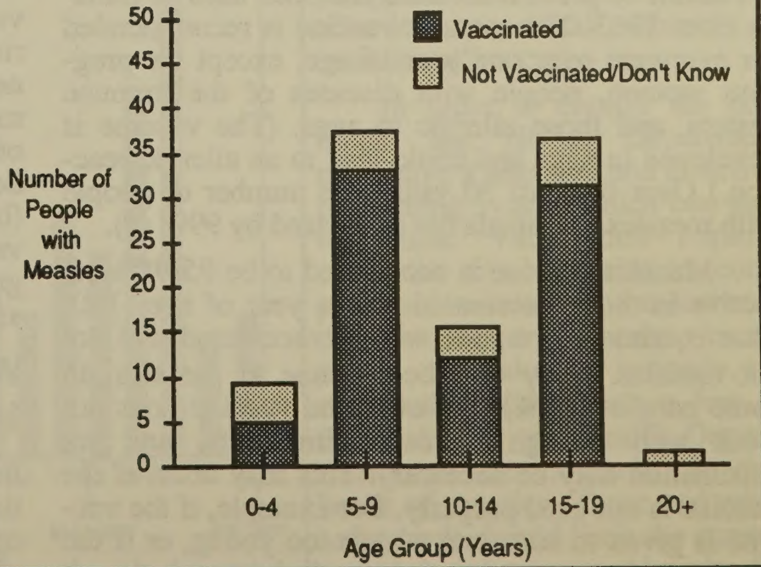
What's this issue about?

In the past few months, a number of Hamilton-Wentworth children and young adults have developed red measles. This increase has been called an "outbreak" by some people, and a possible "epidemic" by others. In this issue of ***Infowatch***, we will look at measles, and use the example of measles to see how the Hamilton-Wentworth Department of Public Health Services monitors infectious diseases, and takes action to prevent outbreaks from becoming epidemics in this community .

What's happening in Hamilton-Wentworth?

In Hamilton-Wentworth, the current outbreak started in January, 1991. From January to June 1991, 112 people developed measles. Of these, 98 have been shown to be related to the current outbreak. Most cases have occurred in those 5-9 years, and 15-19 years of age (see Chart 1). The ages of those with measles, however, ranges from one to 31 years of age.

Chart 1. Outbreak of Measles from January 1, 1991 to June 1, 1991 in Hamilton-Wentworth: Number of people who developed measles in the outbreak by age-group.



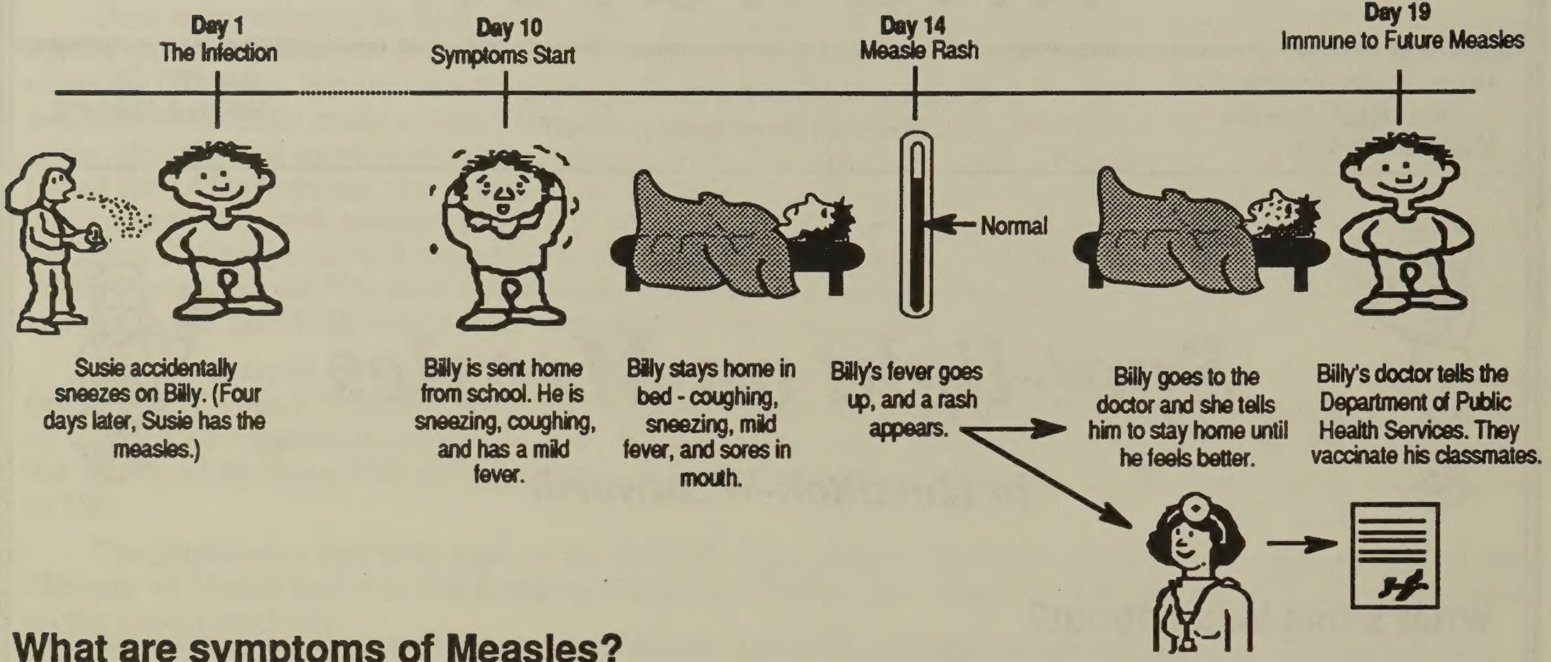
Who gets Measles?

As shown above, measles is most common among pre-school children, teenagers and young adults, especially those who have not been vaccinated against measles. Before a vaccine was developed, nine out of ten people would have had measles by age 20 years (1).

How do we get Measles?

Measles is caused by a virus. The virus spreads by droplet and direct contact with nose or throat fluids. It is one of the most easily spread infectious diseases (1). A person can spread the disease from just before the first symptoms occur until four days after the rash has appeared (1).

Figure 1. What Happens When You Get Measles?


Day 1
The Infection
Day 10
Symptoms Start
Day 14
Measle Rash
Day 19
Immune to Future Measles
Normal
Susie accidentally sneezes on Billy. (Four days later, Susie has the measles.)
Billy is sent home from school. He is sneezing, coughing, and has a mild fever.
Billy stays home in bed - coughing, sneezing, mild fever, and sores in mouth.
Billy's fever goes up, and a rash appears.
Billy goes to the doctor and she tells him to stay home until he feels better.
Billy's doctor tells the Department of Public Health Services. They vaccinate his classmates.

What are symptoms of Measles?

The first symptoms of measles are similar to those of the common cold: runny nose, red eyes, drowsiness, and loss of appetite. Over the next two days, a fever of about 38.3°-39.4°C (101°-103°F) would develop. On the third day, spots in the mouth appear, and coughing would begin. About the fourth day, the fever would rise and reach its highest point – sometimes as high as 40°-41.1°C (104°-106°F). When this happens, a red rash would break out (1). The rash appears first on the face and then extends to the rest of the body. The rash lasts about four to five days. As the rash goes away, the fever comes down. Figure 1 above shows how a typical bout of measles occurs.

How do we prevent Measles?

A vaccine to prevent measles has been used in Canada since 1963. The measles vaccine is recommended for everyone over one year of age, except for pregnant women, people with diseases of the immune system, and those allergic to eggs. (The vaccine is developed in eggs and could lead to an allergic reaction.) Over the past 30 years, the number of people with measles in Canada has decreased by 99% (1).

Measles vaccine is considered to be 95-98% effective in those vaccinated at one year of age (1,2). That is, almost everyone who is vaccinated will not get measles. They will be *immune* to measles. In some people (2-5%), however, the vaccine does not work well enough to cause immunity, and revaccination may be necessary. This may occur if the vaccine is not used properly. For example, if the vaccine is given to someone who is too young, or if the vaccine is improperly stored or administered, then it will not be effective in preventing measles.

In Hamilton-Wentworth, at least 83% of those who developed measles in the current outbreak had been previously vaccinated (see Chart 1). This high percentage points out two facts:

- most people have been vaccinated against measles;
- a large number of people got measles because the vaccine did not work. This large number, however, may simply be the 2-5% of people in whom the vaccine was not effective.

What is the risk involved with getting the Measles vaccination?

As with every medical procedure, there are risks involved with the vaccine. Compared to the benefits of a vaccination program, however, the risks are small. The risks of vaccination can include: mild pain from the needle, mild fever, some tiredness 5-12 days later, a mild cough, runny nose and spots in the mouth (1). In other words, a very mild form of measles may occur. Serious complications such as seizures and encephalitis (brain infections) are extremely rare (one in a million vaccinations) (2). Those who are vaccinated, however, greatly reduce their risk of developing measles and its associated complications.

What is the risk involved with getting Measles?

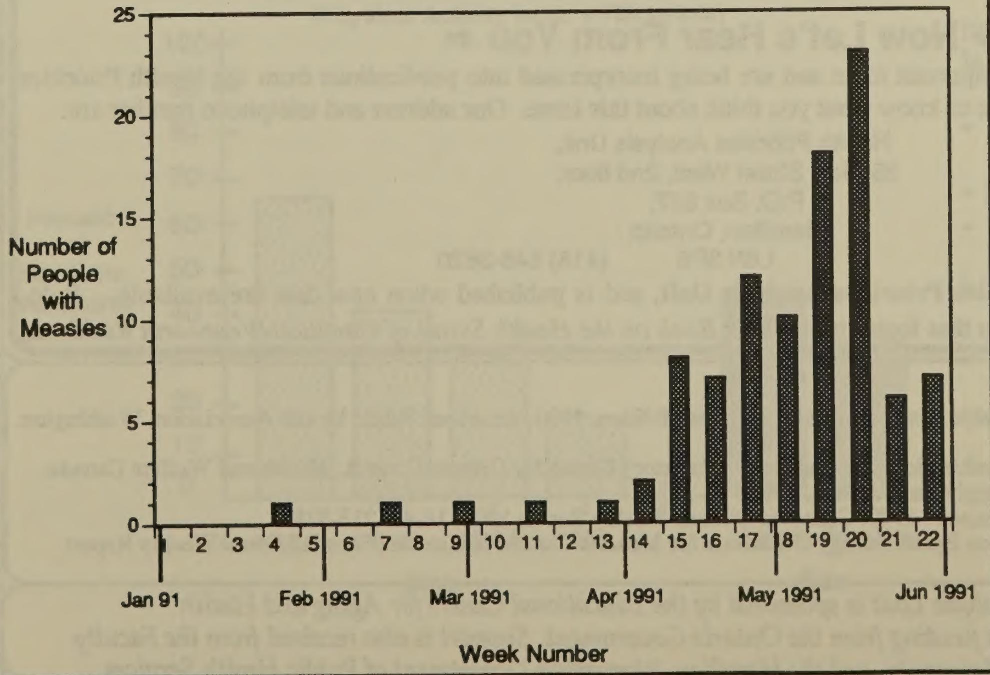
In contrast to the vaccine, the risk of serious complications (seizures and encephalitis) for people who develop with measles is much higher (one in a thousand people with measles) (2). Further, other complications such as pneumonia are not uncommon. Deaths from measles, while rare, have been reported. For example, in Québec, one person died out of 2,000 people who developed measles in a 1989 outbreak (3). Measles also disrupts care-givers who have to take care of those who have developed the illness; for example, one parent may have to stay at home when their children develop measles.

With respect to the cost to the health care system, the measles vaccination program has been shown to cost less than dealing with the burden of illness that would result from measles if no such program existed (2). In fact, if everyone was immunized, the measles virus could be eliminated. Yet, some people do not consider the risk of vaccination to be acceptable and refuse to have themselves and their families vaccinated. This allows the virus to continue to survive, thereby causing occasional outbreaks.

When is a disease an "epidemic"?

A disease epidemic is said to occur when a marked increase in the number of people developing the disease is observed. Monitoring infectious diseases is important to detect such increases. Doctors must report many infectious diseases, including measles, to local Health Departments. "Reportable Diseases" are shown in Table 1 (next page). When the Health Department is notified, they may contact the patient for further information (for example, if they know of any others with the illness), and take appropriate action (4). This information is computerized, monitored daily, and is kept strictly confidential by the Health Department.

Chart 2. Outbreak of Measles from January 1, 1991 to June 1, 1991 in Hamilton-Wentworth: Number of people who developed measles in the outbreak by week of onset.



When is measles an "outbreak"?

The current "outbreak" in Hamilton-Wentworth is not called an "epidemic" because of its relatively small size and ease of control. Chart 2 shows the "outbreak curve" for measles in Hamilton-Wentworth. An outbreak for measles is said to have occurred when at least two people with measles are "linked". "Linked" means that it is likely that one spread the illness to the other. For example, if one pre-schooler developed measles and two weeks later another pre-schooler in the same class developed measles, these two cases (that is, people with measles) would be considered linked, and an outbreak has occurred.

How are outbreaks controlled?

Depending on the disease, control of an outbreak can vary from treating people at risk for the disease to quarantining those with the disease. A child with measles is not allowed to attend school until five days after the rash disappears. In addition, all susceptible people are vaccinated. The number of people vaccinated can vary from a few members of the case's family to entire schools.

When is the "outbreak"over?

The outbreak is over when no more linked cases are reported. There is no way to predict accurately how many people will develop measles in this outbreak. With fast action from the Hamilton-Wentworth Department of Public Health Services, however, it is expected that the outbreak will be over soon.

Can we prevent future outbreaks?

Since not everyone in Hamilton-Wentworth can be vaccinated (owing to medical or religious reasons), and the vaccine is not 100% effective, occasional outbreaks of measles will occur.

In order to control the outbreak, the Health Department must have a sensitive and effective monitoring system which can lead to action. Vaccination requirements for school admission, computerized monitoring for outbreak detection, prompt response to reported outbreaks (for example, revaccination clinics) are a few of the tools that the Health Departments can use to combat an outbreak of measles. These and other safeguards should limit the current outbreak and serve to minimize future ones.

Is Hamilton-Wentworth the only area with an outbreak of Measles?

The other Health Departments in Central-West Region (which includes Hamilton-Wentworth), have also had outbreaks of measles. As of mid-June 1991, Niagara, Brant, Halton, Wellington-Dufferin-Guelph, Waterloo, and Haldimand-Norfolk were all experiencing measles outbreaks as follows:

	Earliest Case	Outbreak Over?	Number of Measles Cases to Date
Brant	January 1991	No	155 (to mid-June)
Haldimand-Norfolk	March 1991	No	83 (to mid-June)
Halton	March 1991	No	56 (to mid-June)
Hamilton-Wentworth	**January 1991**	**No**	**112 (to June)**
Niagara	October 1990	No	369 (to mid-June)
Waterloo	September 1990	No	1,059 (to late May)
Wellington-Dufferin-Guelph	October 1990	No	459 (to mid June)

All Health Departments report that the outbreak of measles in these areas is nearly over. The conclusion of this outbreak is also assisted by the end of the school year. That is, the summer holidays tend to lessen the opportunities for spread of the measles virus.

Table 1. Diseases which must be Reported to the Local Public Health Department in Ontario.

adverse vaccine events
AIDS/HIV
amebiases
rabies exposure
anthrax
atypical mycobacterial infections
botulism
brucellosis
campylobacter
chancroid
chickenpox
chlamydia
cholera
congenital cytomegalovirus
diptheria
E. coli (vertoxin)
encephalitis/meningitis
food poisoning
gastroenteritis-institution outbreaks
giardiasis
gonorrhea
haemophilius influenza type B
hemorrhagic fever
hepatitis A, B, Non-A Non-B (all viral)
herpes, neonatal
influenza
legionella
leprosy
listeriosis
lyme disease
malaria
measles
meningoccal meningitis and meningococcemia
mumps
paratyphoid fever
pertussis
plague
poliomyelitis
psittacosis
Q fever
rabies (human)
rubella and congenital rubella syndrome
salmonellosis
shigellosis
syphilis
tetanus
trichinosis
tuberculosis
tularemia
typhoid fever
yellow fever
yersiniosis

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Infowatch

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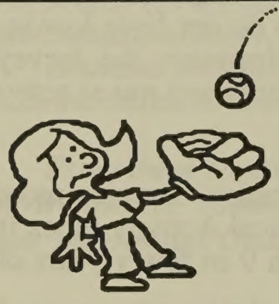


Lights..Camera..(In)Action?

Active Living in Hamilton-Wentworth

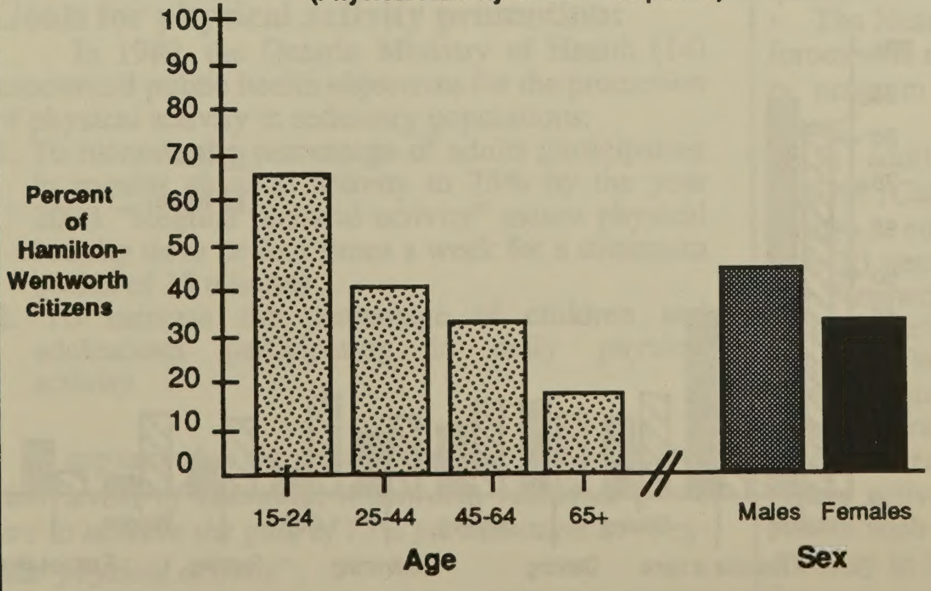
What's this issue about?

Recent research emphasizes the importance of various forms of physical activity in the prevention of disease and in the promotion of good health. Therefore, an active lifestyle should receive increased attention both from health care professionals and from the public. In this issue, we use the results of the Hamilton-Wentworth Health Survey (HWHS) to look at physical activity levels among people in this community.

What is "active living"?

Active living is the inclusion of physical activity in your daily routine. The activity could be anything from washing the car, to walking the dog, to playing tennis, to running a marathon. An inactive lifestyle is a pattern of daily living which includes little or no physical activity either at work or during leisure time.

Chart 1: Percent of Hamilton-Wentworth citizens considered active, by age and by sex
(Physical Activity Index > 750 points)



Why is "active living" an important health issue?

Studies in Europe and North America have shown that physical activity contributes to a decrease in the occurrence of heart disease (1-4).

Circulatory disease (any disease involving the heart or the blood vessels) is the leading cause of death for men and women in Hamilton-Wentworth (5). It is the the contributing factor in one-third of all deaths in Canada (6).

In addition to keeping your heart healthy, active living is related to:

- improved mental outlook & life satisfaction;
- increased endurance and strength;
- maintenance of recommended-bodyweight;
- improved body composition (the ratio of fat to muscle);
- increased bone mineral retention (prevention of osteoporosis);
- decreased incidence of cancer;
- reduced absenteeism at work;
- decreased death rates from other causes (4, 7-12).

How many people in Hamilton-Wentworth are "active"?

The answer to this question depends on how physical activity is measured. Measuring physical activity can take into account one or more of *frequency, duration* or *intensity* of the activity.

Frequency refers to the number of times (usually per week or month) that an activity is repeated. *Duration* refers to the length of time that each activity period lasts. *Intensity* refers to the amount of effort that the activity involves.

Using only *frequency* to measure physical activity, 63% (or 220,900) of the people in Hamilton-Wentworth report that they participate in physical activity three or more times a week, 17% (59,300 people) - one or two times a week, and 20% (69,800 people) are active less than once a week.

Using *frequency* and *duration,* as recommended by the Ontario Ministry of Health (14), only 15% of persons in Hamilton-Wentworth were “regularly active“ (three or more periods of activity a week for at least a 15 minute period). This means that about 85% (297,000 people) were found to be “inactive“.

The Physical Activity Index (13) uses *frequency, duration* and *intensity*, as well as *type of exercise,* to measure physical activity levels. The Index measures total energy output over a given period. The more activities a person does, the longer the activities last, and the harder a person works during the activities, the higher the score. For example, a person who plays baseball once a week for two hours gets a score of 480 points while a person who walks briskly for 40 minutes, 3 times per week, earns a score of 910.

Using the Physical Activity Index, 37% of Hamilton-Wentworh residents (130,000 people) have a score over 750 points per week, and are thus considered "active". Chart 1 shows the percentage of the population that is active in each age group when this standard is used. It is also used to explore the following relationships.

Active Living and...

..Age

People in the youngest age group are the most active. Three out of five of those aged 15 to 24 are active compared with one out of five (17%) over the age of 65.

...Sex

Men are more active than women. About 55% of men are active compared with 32% of women.

...Income

More people who have low incomes are inactive, compared with those who do not have low incomes (78% versus 60%). However, the survey only looked at leisure-time activity and not at activity at work.

...Education

Persons with higher education exercise more frequently. However, the Physical Activity Index is slightly higher for persons with 9 or fewer years of education.

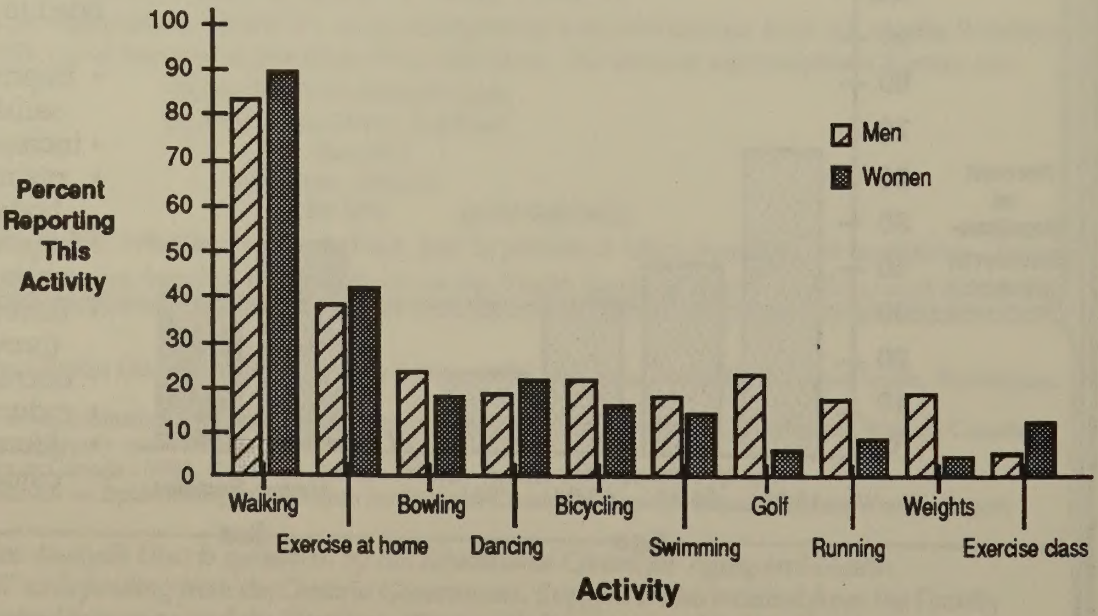
What activities do people in Hamilton-Wentworth do ?

The activity reported most frequently by both men and women is walking, followed by exercise at home. Chart 2 shows the ten most frequently reported physical activities for men and women in Hamilton-Wentworth. Since the survey was conducted in May 1989, results reflect spring or summer activities.

How does Hamilton-Wentworth compare with other communities?

There is little information on physical activity levels in other Canadian communities. However, two recent surveys provide information on the

Chart 2: Top ten physical activities of Hamilton-Wentworth men and women



activity levels in Ontario (11) and in Canada (12). The Hamilton-Wentworth survey revealed that 80% of the residents of this area were physically active at least once a week. Ontario residents and the average Canadian were less active (63% and 65%, respectively). Similarly, the percentage of residents who had medium to high scores on the Physical Activity Index (>750 points) was higher for Hamilton-Wentworth (37%) than for Ontario residents (27%) and Canadians (33%).

Seasonal variation in activities may partially explain the differences observed in these surveys.

From these comparisons, it appears that Hamilton-Wentworth residents are slightly more active than the average Ontario or Canadian resident.

How much activity is enough?

The exact amount and type of physical activity required to produce health benefits is hard to pinpoint. The Ontario Ministry of Health (14) recommends three to four periods of activity per week, for at least 15 minutes each time to gain health benefits. Studies have shown that low intensity activity (eg. walking), if undertaken regularly, provides many of the benefits of more intense physical activity (eg. running) (4,10). People are more likely to stick with an activity if it can easily be incorporated into a normal routine (eg. walking to work) and if a friend or relative also engages the activity (11).

Regular activity maintained over time is important. Switching to more appropriate activities as the seasons change (eg. cycling to skating) is better than stopping (11). Any increases in the amount or intensity of activities should be gradual. Most of all, to ensure that physical activity becomes a part of your lifestyle, it should be enjoyable!

Goals for physical activity promotion:

In 1989, the Ontario Ministry of Health (14) announced public health objectives for the promotion of physical activity in sedentary populations:

1. To increase the percentage of adults participating in regular physical activity to 75% by the year 2000. "Regular physical activity" means physical activity three or four times a week for a minimum period of 15 minutes
2. To increase the percentage of children and adolescents participating in daily physical activity.

It appears that we need to increase the participation levels of Hamilton-Wentworth residents if we are to achieve the goal of 75% participation in "regular physical activity".

What is Hamilton-Wentworth Doing to Promote Active Living?

The first step in increasing the activity levels of a population is to help people become more aware of the need to be active. *Participaction* with its "walk a block" promotion heightened the awareness of Canadians about the need for, and the benefits of, regular activity in the late 1970's and early 1980's. Over the past ten years there have been a number of initiatives in the Hamilton-Wentworth area which have tried to increase physical activity levels.

- The *Mac Turtles,* uses the combined expertise of several departments at McMaster University and Chedoke-McMaster Hospitals to provide an exercise rehabiliation program for recovering heart attack patients.
- The *Hamilton YMCA and YWCA* provide activity programs for special groups such as people who are *pre-natal, post-natal, overweight,* or *post-surgery.* Both organizations also provide a range of opportunities for those who work in the downtown core to be active before or after work or during lunch.
- Cities in the Region have *Recreation Departments* which offer a wide variety of low-cost activity programs for all ages. In addition, recreation department memberships permit participants to use any of the Departments' facilities at designated "open" times.
- The *Heart and Stroke Foundation,* which recognizes the importance of activity in the prevention of heart disease, runs a *Mall Walk* program. This program provides people of all ages the opportunity to get some exercise in a safe, dry, friendly environment on a regular basis, year-round. The malls that participate have been generous in their support of this initiative which has become a vibrant community effort.
- The Heart and Stroke Foundation has also joined forces with elementary schools to promote an activity program for children called "*Jump Rope for Heart*".
- In addition to these specific programs the *CLEAR (Culture, Leisure, Education, Arts and Recreation)* committee has been in existence for the past 10 years to promote activity levels in Hamilton-Wentworth. This group has representation from all public and private recreational groups (for example, the YW/YMCA, the Hamilton Recreation Department and the Hamilton Board of Education). It meets quarterly and hosts an annual conference to discuss strategies to make Hamilton-Wentworth "more active". This committee also plays a major role in such community activity events as the annual *Fit Day* in May and the *Terry Fox Run* in September.

1989 Hamilton-Wentworth Health Survey - Methods

The 1989 HWHS originated as a pre-test for the 1990 Ontario Health Survey (OHS) and was conducted during the month of May, 1989 (15). The goal of the OHS and of the pre-test was to gather baseline population data on the determinants of health and the physical, mental and social health of the residents of Ontario.

Data were collected by both an interview (IAQ) and a self-administered questionnaire (SAQ). The IAQ involved gathering data on all members of a household from a single knowledgeable member of the household, while the SAQ was left for each member of the household age 12 and over to fill out and mail back to the study centre. Whenever possible, questions used in the survey were abstracted from previously administered surveys to ensure comparability. The sample of the HWHS included 896 people who completed the IAQ (response rate = 86%) and 603 persons who completed the SAQ (response rate = 67%). Only those completing both questionnaires and who were at least 15 years old were included in the analysis. The analysis sample included 578 persons, with slightly over half being female (56%). With this sample size, estimates are correct within 3 to 4 percentage points, 95 times out of 100. A comparison of these respondents with the 1986 Census data for Hamilton-Wentworth residents revealed no differences on variables such as sex, income and education. HWHS respondents were slightly older than those in the Census.

The preparation and field work of the HWHS was funded by the Province of Ontario through the Ontario Ministry of Health, and was conducted by Statistics Canada. See Chambers and Reynolds (16) for a full report of the survey methods.

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The Health Priorities Analysis Unit is sponsored by the Educational Centre for Aging and Health which was established in 1987 with funding from the Ontario Government. Support is also received from the Faculty of Health Sciences, McMaster University, and the Hamilton-Wentworth Department of Public Health Services.

Infowatch

Health Priorities Analysis Unit
Faculty of Health Sciences
McMaster University

A Service of the Health Priorities Analysis Unit
To Inform People about Research on Health

July 1992
Volume 4, Number 1

A Series on Seniors

1. Seniors...who are they?

What's this "Series" about?

Over the past year, a special study has been conducted which has, among many things, led to the collection of health information on seniors in Hamilton-Wentworth (1). The data gathered for this study will be presented in this series. This is the first issue and provides an introduction to our seniors: who they are, their age, sex, ethnocultural background, socioeconomic characteristics, and more. Topics to follow will look at a broad definition of health and its determinants, and will include:

- illness burden
- social environment
- function and ability
- safe environments
- mental well-being
- illness prevention and health promotion

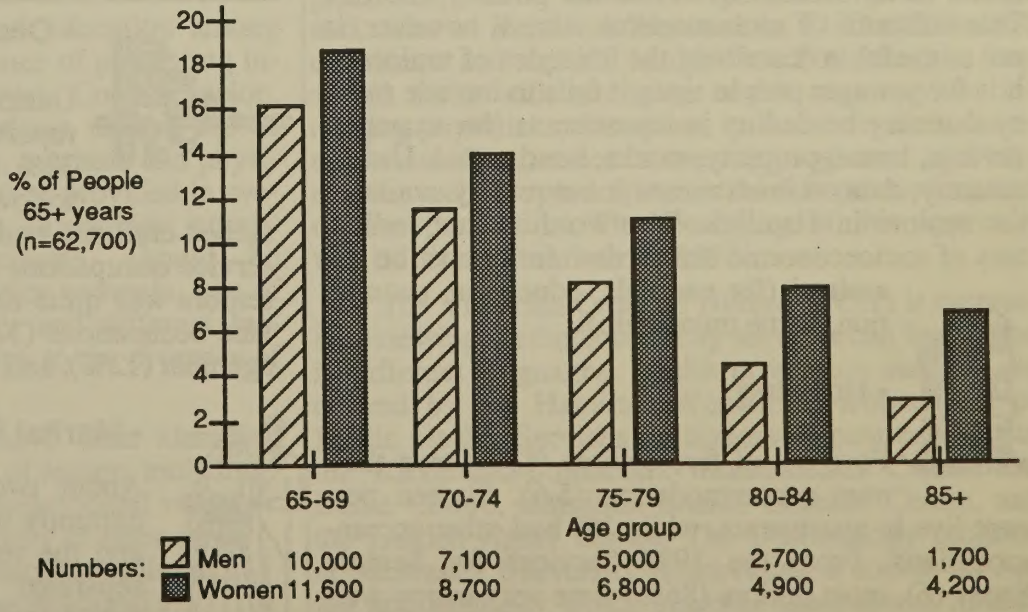
For those who can't wait and would like to read ahead, we suggest (and encourage) readers to directly obtain the sources of the information that we have used or will be using in this series. These can be found in the reference section on the back page.

How many seniors live in Hamilton-Wentworth?

In 1991, about 62,700 seniors, or those 65 years of age and over, lived in Hamilton-Wentworth. This represents 14% of the total population (2).

Chart 1 shows the number of men and women by age and sex, and how the percent of those over 65 years is distributed. Overall, more women than men comprise each age group, with women accounting for 59% of all seniors (see Chart 1).

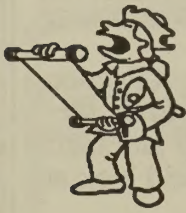
Chart 1. Estimated Number of Men and Women, 65 years of age and over, in Hamilton-Wentworth in 1991



Are Hamilton-Wentworth seniors culturally diverse?

• Ethnicity and Culture

Many elderly in Hamilton-Wentworth came to Canada as part of a wave of immigrants from countries in Eastern Europe during the 1920's and 1930's (3). Many of these immigrants worked in the steel industry and in construction, and tended to retain their former language and cultural identity. From the 1989 Hamilton-Wentworth Health Survey (HWHS), the ethnic groups for which seniors most often identified themselves as (excluding Canadian and British) included: Italian (5%), French (3%), Polish (3%) Ukrainian (2%), Dutch (2%), and German (2%) (HWHS unpublished data).



• Language

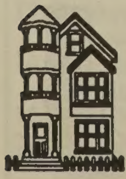
Even with such a diverse cultural community, 93% of seniors can speak English (4). It is not known, however, whether this represents total or partial fluency in English. Slightly more men can speak English than women (93.4% and 91.8%, respectively). Less than 1% of seniors speak French. About 1% reported Italian as the main language that was spoken at home (HWHS unpublished data).

What is the socioenomic status of Hamilton-Wentworth seniors?

$

• Income

Nearly 45% of seniors in Hamilton-Wentworth were found to have incomes below the poverty line (5). This indicator of socioeconomic status, however, is not as useful in describing the lifestyles of seniors as it is for younger people since it fails to include money that may be tied up in investments (for example, savings, home, property, stocks, bonds, etc.). Unfortunately, data on investments is not readily available for seniors in Hamilton-Wentworth. Other indicators of socioeconomic status, therefore, must be examined (for example, education, occupation, home ownership).



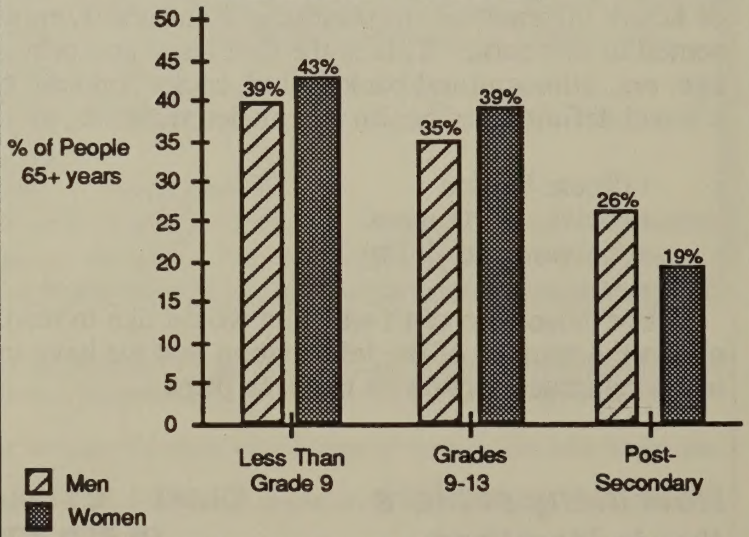
• Housing

Four out of five seniors (83%) own their own accommodation (5,6). Sixteen percent live in apartments, while 1% had other accommodations. From the 1988 Services for Seniors Study (6), most seniors (86%) were very happy with their present housing. Of those who were not happy, the most frequent reason was home disrepair. About 10% of seniors were considering a move in the next five years; the main reason being the inability to maintain (in terms of cost and upkeep) their current home (6). About 7% of seniors live in long-term care facilities (7).

• Education

According to the 1986 Census, 41% of seniors have less than a grade 9 education (4). In other words, 2 seniors out of every 5 have not passed grade 9. Women in this age group tend to have less formal education than males (see Chart 2); while 26% of men have some post-secondary education, only 19% of women do. Of all seniors in Hamilton-Wentworth, only 3% have a university degree.

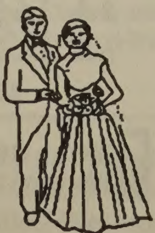
Chart 2. Highest Education Level among Men and Women 65 years of age and over in Hamilton-Wentworth†



† Source: Region of Hamilton-Wentworth Selected 1986 Census Tables (4).

• Occupation

Unskilled labour occupations were reported as the main type of work for 32% of male seniors (6). This was followed by management (26%), skilled craft and trade (23%), and clerical, sales and service occupations (18%). Employment for female seniors was quite different: clerical, sales and service occupations (37%), homemaking (33%), management (12%), and unskilled labour (12.2%).



• Marital Status

About two-thirds (62%) of seniors are currently married, with 10% being single, and the remaining 29% being widowed, separated or divorced (HWHS unpublished data).

Other Characteristics About Hamilton-Wentworth Seniors ...

Previous issues of *Infowatch* have looked at cigarette smoking, alcohol use, and physicial activity patterns for Hamilton-Wentworth residents of all ages including seniors (8,9,10). The facts for seniors are summarized here and are based on the 1989 Hamilton-Wentworth Health Survey:

- **Cigarette Smoking** – 7% of seniors are daily cigarette smokers (8).
- **Alcohol Consumption** – 8% of seniors report consuming 14 or more drinks during the previous week (that is, before the survey) (9).
- **Physical Activity** – 83% of seniors include little or no physical activity in their daily lives (10).

What are the health implications for Hamilton-Wentworth?

Although seniors are often referred to as a collective group, the above outline shows that they comprise a diverse population. Consideration of this diversity must be made by physicians, health planners, and other health professionals. For example, language difficulties, as well as lower levels of education, may hamper communication between physicians and their senior patients. In fact, the Multi-Cultural Health Care Needs Study found that seniors of different ethnocultural backgrounds actively sought physicians of their own ethnic and linguistic group (3). Since about one in ten seniors cannot speak English, ideally about 10% of physicians in this community should be able to converse in at least two languages. The two languages most frequently in need are English and Italian.

The lower levels of formal education among seniors emphasizes the importance of presenting information at an appropriate level. Condescension, however, must be avoided. Advice on the use of prescription drugs, home safety, nutrition and physical activity, for example, should be provided in everyday language, without jargon. In addition, educational materials, when available, should be produced in different formats (for example, use of the media, videos, workshops), and different languages while also being sensitive to the diversity of ethnocultural backgrounds.

Several other problems have been identified (3) in meeting the health needs of seniors including:

- differences in cultural and behavioural values (for example, role of the family in elder care),
- the need for interpreters (uncomfortable for both the senior and health professional),
- accessible, and ethnospecific services,
- little knowledge of health services other than physician and hospital services (such as home care, public health nurse, foot care clinic, occupational/physiotherapy service, friendly visiting service).

What can and is being done in Hamilton-Wentworth ?

The 1990 Hamilton-Wentworth Multicultural Health Care Needs Study (3) produced recommendations to address the health care needs of seniors. Many of these recommendations can also be applied to address the broad view of health, that is, beyond health care. Some of these are listed below:

- develop culturally sensitive education materials specific to seniors and ethnic groups which can be shared.
- establish an interpreter's network specific to seniors based on language, culture and health care needs.
- facilitate research in specific areas pertaining to ethnic seniors.
- develop an inventory of health and social services that are ethnospecific and pertain to the elderly.

Currently, the Hamilton-Wentworth District Health Council is using these recommendations as the bases for developing implementation strategies. In addition, through public hearings and direct participation on committees, the District Health Council and Regional Advisory Committee on Services for Seniors (which reports to the Health and Social Services Committee) has increased senior participation in decision making and planning.

Another initiative in this community is the "St. Peter's Seniors' Comprehensive Health Organization (CHO) Project" (1). This project is examining the feasibility of developing a centrally coordinated, non-profit corporation to care for people 55 years of age and older in Hamilton-Wentworth. CHO staff would coordinate and monitor health care. For example, they would assist with arranging health care services including physicians, therapists, in-home services, nutrition counselling, cancer screening programs, and others, as well as participate in health promotion and disease prevention. The feasibility of this approach will be reported on later in 1992.

The Victorian Order of Nurses (VON) is currently reviewing methods whereby services can be offered in different languages. Health promotion services are offered by the Hamilton-Wentworth Department of Public Health Services to seniors at centres such as the Kirkendall-Strathcona Multicultural Centre, the Dante Centre, Hamilton Senior Citizens Centre, and the Golden Agers Centre. The Gerontology program at McMaster University is providing a course on Aging and Ethnicity which explores these issues further, and also seeks solutions.

Methods

This series of ***Infowatch*** was initiated in order to assemble the data collected for the St. Peter's Hospital Comprehensive Health Organization Feasibility Study (1) into a fact book on the health of seniors in Hamilton-Wentworth. We knew, however, from a survey of users of the 1988 Fact Book on the Health Status of Hamilton-Wentworth Residents (11) that about half of users preferred data in text format as opposed to the table/chart format of a fact book. In order to ensure that the information was as useful as possible, the ***Infowatch*** format was deemed the best way for presenting it concisely and comprehensively. The data contained herein, therefore, summarize a number of recent reports on Hamilton-Wentworth seniors. For those interested in specifics, we encourage the use of the references and resources provided.

Special thanks go to all of the organizations who have helped make this series possible. In particular, the following groups have made extensive contributions:

Educational Centre for Aging and Health
Hamilton-Wentworth District Health Council
Hamilton-Wentworth Department of Public Health Services
Social Planning and Research Council of Hamilton and District
McMaster University
St. Peter's Hospital
Victorian Order of Nurses Hamilton-Wentworth Branch

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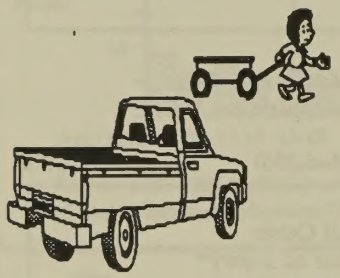
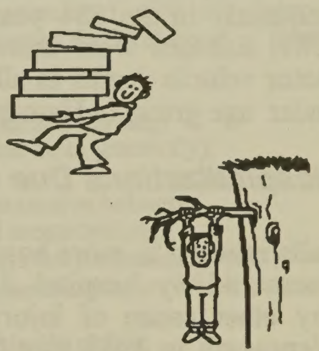


It Was an Accident ....or Was It?



Injuries in Hamilton-Wentworth

What's this issue about?

In Ontario in 1989, seniors (aged 65+) experienced higher rates of hospitalization and death due to injury than any other age group. For those under the age of 45, there were more deaths and days spent in hospital as a result of injury than for any other disease or condition. For the total population, injury was the fourth leading cause of death after cardiovascular disease, cancer and respiratory disease.

In the International Classification of Disease (ICD) Codes set by the World Health Organization injury is categorized both by "nature of injury", for example head injury, or fractures/dislocations, and by "cause of injury" which includes traffic collisions, falls, suicide, etc..

This issue will examine injuries in the Regional Municipality of Hamilton-Wentworth using data reported by the Ontario Ministry of Health.[2]

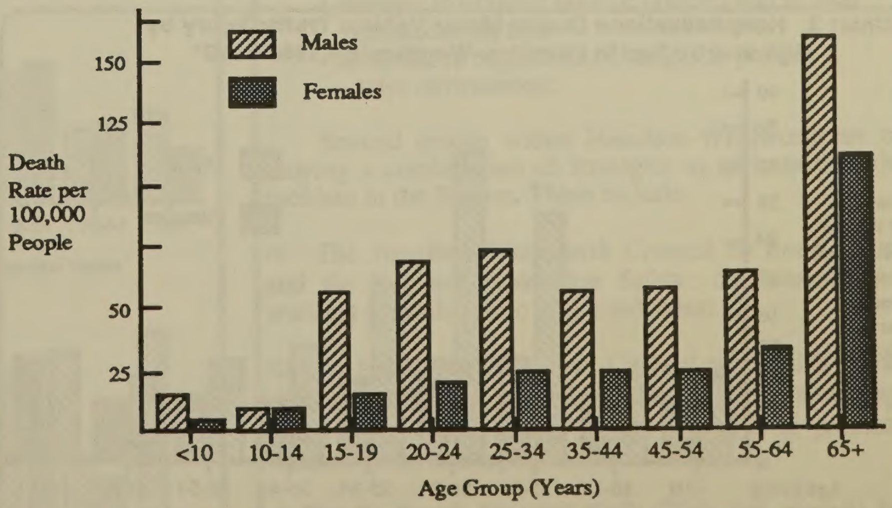
How serious is the injury problem in Hamilton-Wentworth?

In 1989, 188 people were killed and 6,356 people were hospitalized in Hamilton-Wentworth as a result of injury.[2] Chart 1 shows the death rate due to injury by age and sex for Hamilton-Wentworth. Injury was the leading cause of death for those under 45 years of age, and the fourth leading cause for all age groups combined in the Region from 1986 to 1989.

In addition, injuries accounted for 22.8% of all days spent in hospital in the Region in 1989. Only cardiovascular disease resulted in more hospital days (23.2%).

Similar to the Ontario statistics, seniors in the Region in 1989 had the highest rates of hospitalization and death due to injury.

Chart 1: Deaths Due to Injury in Hamilton -Wentworth by Age and by Sex (Average Annual Rates - 1986-1989)



Source: 1986-1989 Morbidity and Mortality Statistics, Ontario Ministry of Health, Information Systems Division, 1991.

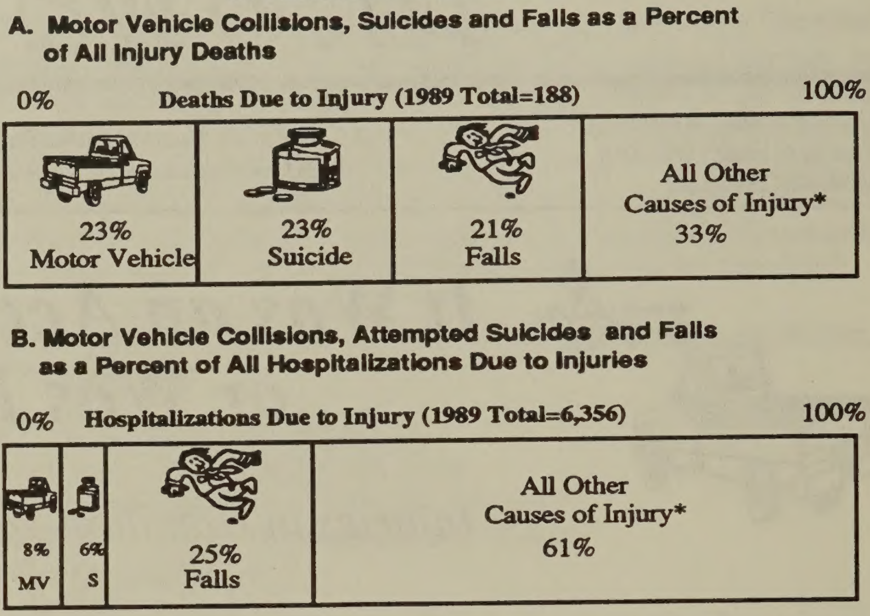
Deaths Due to Injury

For all age groups in Hamilton-Wentworth, injury deaths were more often caused by motor vehicle crashes, falls and suicide than by other causes of injury (see Chart 2). Motor vehicle crashes were a major cause of death for every age group whereas deaths due to falls occurred more frequently in the 65+ year age group. In 1989, suicides were more common than motor vehicle deaths in all but the14-and-under age group in Hamilton-Wentworth.

Hospitalizations Due to Injury

Falls resulted in more hospital admissions (measured by hospital discharges) than any other cause of injury in Hamilton-Wentworth in 1989 (see Chart 2). Motor vehicle collisions and attempted suicide were also major causes of injury requiring hospitalization. Falls (25%), attempted suicide (6%) and traffic crashes (8%) together accounted for about 40% of hospital discharges related to injuries.

Chart 2. 1989 Injury Deaths and Hospitalizations in Hamilton-Wentworth



* Other causes of injury include: occupation, sports, off-road vehicles, burns, poisonings, drownings, homicides, injury to others.

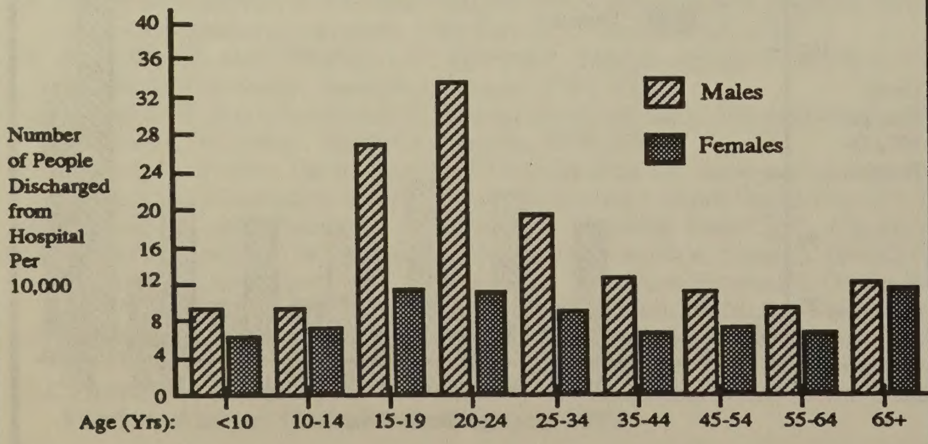
Source: Ontario Ministry of Health, Information Systems Division, 1991.

Who is injured ?

... in Motor Vehicle Collisions

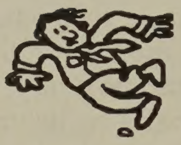
In Hamilton-Wentworth in 1989, 43 people died and 507 people were hospitalized as a result of traffic crashes. These incidents resulted in 7,769 days spent in hospital. Chart 3 shows the rates of hospitalization by age and sex. Provincial statistics demonstrate a similar trend; in 1988 and 1989 in Ontario, 16-24 year-old males had the highest rates of traffic collisions and males were consistently involved in crashes two to three times more often than females.[3]

Chart 3. Hospitalizations Due to Motor Vehicle Traffic Injury by Age and by Sex in Hamilton-Wentworth - 1986-1989*



* Average annual rate

Source: 1986-1989 Morbidty and Mortality Report, Ontario Ministry of Health, Information Systems Division, 1991

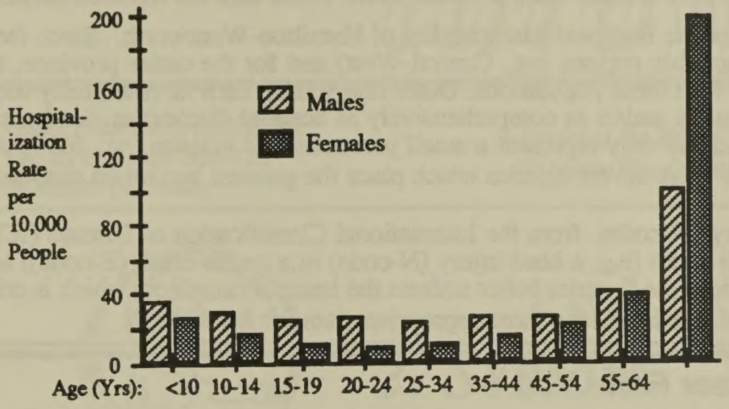


... in Falls

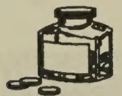
Falls resulted in 51 deaths, 1,660 hospitalizations and 55,815 days spent in hospital in Hamilton-Wentworth in 1989. Chart 4 provides the average annual rates of hospitalization for falls by age and by sex in the Region. While falls remained the number one reason for hospitalization for all age groups, the problem was most severe in seniors. The 65+ year age group accounted for 44 or 86% of the deaths, 857 or 52% of the hospitalizations and 47,663 or 85% of the days spent in hospital related to falls in Hamilton-Wentworth. For each successive 10-year age group from age 55 on, there is a 50% increase in fall injury rates (not shown in Chart 4).

A comparison of 1986 to 1989 statistics for the Region[2] shows that the problem of falls in the 65+ year age group has grown in Hamilton-Wentworth over the past four years: number of deaths (25 in 1986 and 44 in 1989), number of hospital discharges (1,872 to 2,168), and the average length of time in the hospital (21 days to 53 days) all increased. The problem of falls in the elderly has also been identified as a priority area for the Province[4].

Chart 4. Hospitalization Rate Due to Falls by Age and by Sex in Hamilton-Wentworth - Average Annual Rate - 1986-1989



Source: 1986-1989 Morbidity and Mortality Statistics, Ontario Ministry of Health, Information Systems Division, 1991



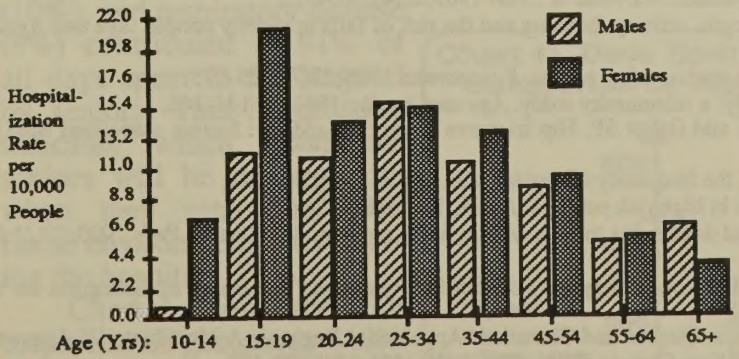
... in Suicide

There were 36 suicides in Hamilton-Wentworth in 1989. There were also 399 attempted suicides, which resulted in 4,649 days spent in hospital in the Region. These high rates are particularly alarming since it is estimated that 12 to 17% of suicides are under-reported in Canada.[5]

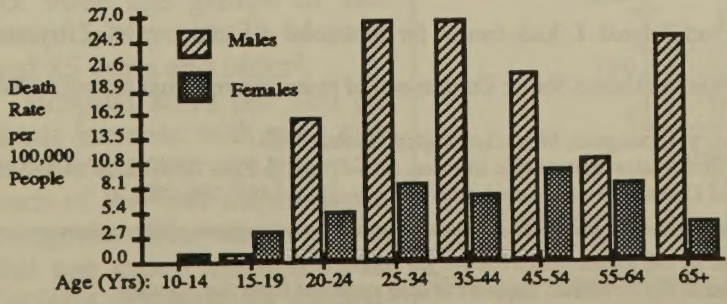
Chart 5 gives the attempted and completed suicide rates for Hamilton-Wentworth by age and by sex. Males had higher rates of completed suicide whereas females had higher attempted suicide rates. Suicides were most frequent in 25-44 year-old males in Hamilton-Wentworth from 1986 to 1989 with 67 suicides representing 37% of the total suicides. During this time there were more suicide attempts (76) in 15-19 year old females than in any other group.

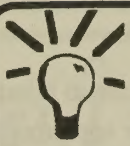
Chart 5. Suicide Rates for Hamilton-Wentworth - 1986 to 1989

A. Attempted Suicides by Age and by Sex - Average Annual Rates



B. Completed Suicides by Age and by Sex - Average Annual Rates





So What Can We Do?

The term "accident" is now considered a misnomer since it implies that these injuries are unavoidable. Research has demonstrated that more than 80% of all injuries are both predictable and preventable.[6-8] In many cases, a simple, inexpensive intervention could prevent a death or a lifetime of suffering.

Understanding the causes and identifying the risk factors are critical stepping stones toward injury prevention. The following factors are associated with the injury-producing incident and/or increase the likelihood of death or disability in the incident:

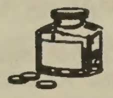
Motor Vehicle Collisions

- drinking alcohol and driving;
- not wearing seat belts (correctly);
- high speed;
- not wearing protective helmets (cyclists and motorcyclists);
- unsafe roadways for pedestrians, and;
- unsafe pedestrian behaviour. [3,9-11]

Falls

- not being physically active;
- weak muscles and joint stiffness;
- taking too many medications;
- chronic illnesses;
- unsafe homes;
- living in an institution;
- icy and snowy conditions;
- risk-taking behaviours, and;
- fear of falling. [12-18]

Suicides



- availablity of firearms;
- availability of lethal drugs;
- previous suicide attempt;
- depression & other psychiatric disorders;
- death of a friend, family member or peer;
- problems in personal relationships;
- alcoholism. [19-23]

Three types of intervention strategies are used in disease prevention. Listed from the least to the most effective[24], these are:

- education about risk factors and persuasion to modify behaviours;
- changes to existing laws or policies and to their enforcement, and;
- technical or engineering changes to provide a safer environment.

Several groups within Hamilton-Wentworth are employing a combination of strategies to address the injury problem in the Region. These include:

⇨ The Hamilton-Wentworth *Council on Road Trauma* and the Region's *Pedestrian Safety Subcommittee*, are working towards traffic injury reduction.

⇨ The Hamilton-Wentworth *Council on Suicide Prevention* has produced a manual *"A Handbook for the Caregiver on Suicide Prevention"*[19] and is active in presenting workshops on this topic.

⇨ The St. Peter's Hospital *Falls Clinic* has recently been established to assess seniors who have experienced a serious fall.

Methods

Data related to hospitalizations and deaths due to injury were used for this issue of ***Infowatch***. These data are reported annually by the Ontario Ministry of Health[1,2] for 10-year age groupings for the Regional Municipality of Hamilton-Wentworth. Since these data are also available for other regional municipalities, for geographic regions (eg., Central-West) and for the entire province, the opportunity exists for readers to compare Hamilton-Wentworth with these populations. Other injury data, such as emergency room visits or visits to other health professionals, are not collected annually and/or as comprehensively as hospital discharges, deaths, and days spent in hospital. Although injuries which require hospitalization only represent a small percentage of injuries (eg., 6% motor vehicle, 7% occupational, 2% sports and recreation[7]), these are the more severe injuries which place the greatest burden on our health care and social systems.[25]

The "cause of injury" E-codes, rather than the "type of injury" N-codes from the International Classification of Disease (ICD) were used in our analysis. Most injuries are recorded under both codes (e.g. a head injury (N-code) in a traffic crash (E-code)) and therefore use of both statistics would result in double counting. Since the E-codes better address the issue of causation, which is critical in addressing disease prevention strategies [26], these codes were considered the most appropriate data for ***Infowatch***.

➔ Now Let's Hear From You ⬅

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The Health Priorities Analysis Unit is sponsored by the Educational Centre for Aging and Health which was established in 1987 with funding from the Ontario Government. Support is also received from the Faculty of Health Sciences, McMaster University, and the Hamilton-Wentworth Department of Public Health Services.

Infowatch

Health Priorities Analysis Unit
Faculty of Health Sciences
McMaster University

A Service of the Health Priorities Analysis Unit
To Inform People about Research on Health

March, 1993
Volume 5, Number 2

A Series on Seniors

2. Seniors. . . their health problems in focus!

What's this issue about?

Physical, social, and psychological changes affect everyone from conception to death. As life expectancy has increased in Hamilton-Wentworth, most seniors (those aged 65 years and older) are living healthier, longer[1]. Even though most seniors are healthy[1], there are some seniors who experience poorer health and long term illness particularly near the end of their lives.

This Infowatch will examine the health problems of seniors in Hamilton-Wentworth based on the following indicators: hospitalizations, hospital days stay, health related service use & awareness, and self-reported health[2-9].

Why are seniors hospitalized?

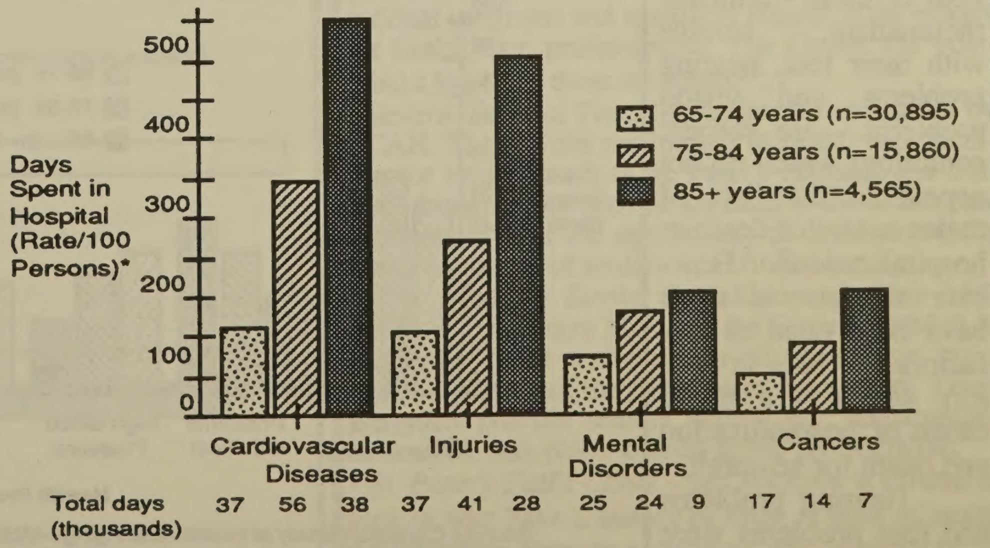
In 1989, seniors spent a total of 401,877 days in Hamilton-Wentworth hospitals. Circulatory disease (33%), injuries (26%), mental disorders (14%), cancer (10%), and respiratory disease (8%) contributed to 91% of all days spent in the hospital by seniors. This information indicates which conditions seniors will be dealing with when they return to their home environment after leaving the hospital.

Chart 1 shows the four major illness groupings which result in days spent in hospital for three age groups of seniors: 65-74 years, 75-84 years and 85 years and older[2].

Hospital stays per 100 patients increase with each successive ten-year age group for each of the four major illness categories. The magnitude of this age group increase is especially dramatic for circulatory disease and for injury.

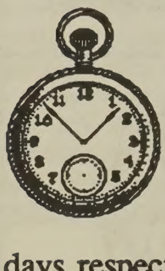
Certain subcategories were more common than others within the four major illness groupings. Cancers of the trachea, bronchus and lung and prostate cancer were the most common cancers for men. Breast cancer resulted in the most hospital days for women.

Chart 1: Days Spent in Hospital due to Four Major Illness Categories by Age Group - Hamilton-Wentworth - 1989



Source: Ontario Ministry of Health, Morbidity and Mortality Statistics, 1986-1989 (2)

Pneumonia accounted for 58% of hospital days due to respiratory disease. The most common subcategory of mental disorder was psychosis whereas the most frequent injuries resulting in a hospital stay were those resulting from a fall[2,8].



How long were seniors in the hospital?

Mental disorders and injuries had the highest average length of hospital stay (total # days/total # discharges) at 148 days and 49 days respectively. Chart 2 shows that the length of stay in hospital for seniors in Hamilton-Wentworth differs by age and by sex. That is, males had shorter hospital stays than females in each age group and the length of stay increased for each successive age grouping.

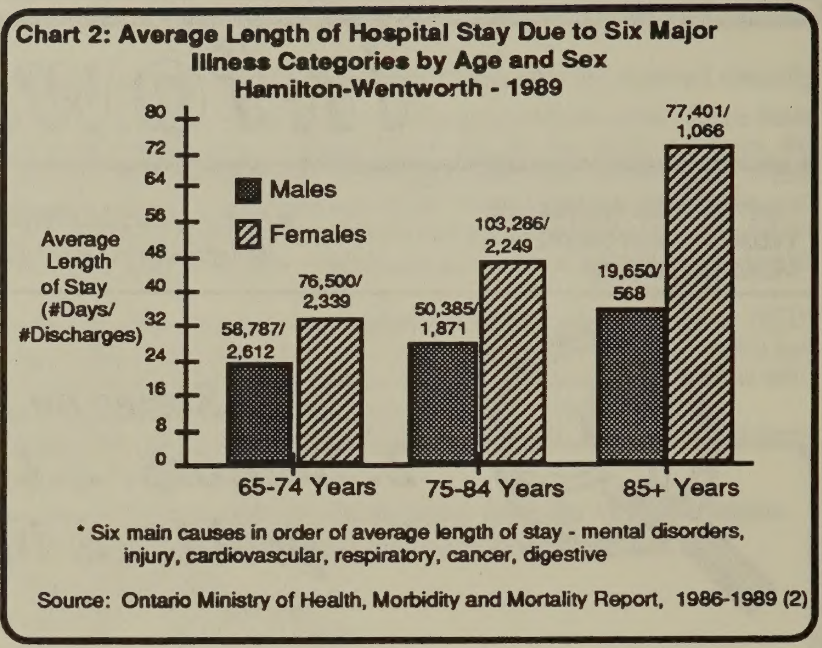


Chart 2: Average Length of Hospital Stay Due to Six Major Illness Categories by Age and Sex Hamilton-Wentworth - 1989

* Six main causes in order of average length of stay - mental disorders, injury, cardiovascular, respiratory, cancer, digestive

Source: Ontario Ministry of Health, Morbidity and Mortality Report, 1986-1989 (2)

How healthy are seniors in the community?

According to the Hamilton-Wentworth results from the Canadian Study on Health and Aging (CSHA)[6], 84% of seniors (201/239), aged 65 years and older indicated that their health was either "very good" or "pretty good". Only 3.4% (8/239) indicated that their health was "poor" or "very poor". For seniors in the Ontario Health Survey (OHS)[7], 64% of men (56/87) and 72% of women (72/100) reported that they currently coped with two or more general health problems.

Chart 3 presents the six most common health problems as reported by three age groups of seniors in the CSHA study. Four of these - arthritis/rheumatism, trouble with their feet, hearing problems and vision problems - are chronic conditions which do not appear in the lists of major causes of death or hospitalization[2]. However all four of these have been cited as risk factors for falls in seniors which is a major cause of hospitalization and death for seniors[8].

Hearing problems and foot problems were more frequently reported by the 85+ year age group (44% and 46%, respectively) than by the 65-74 year age group (29% and 26%).

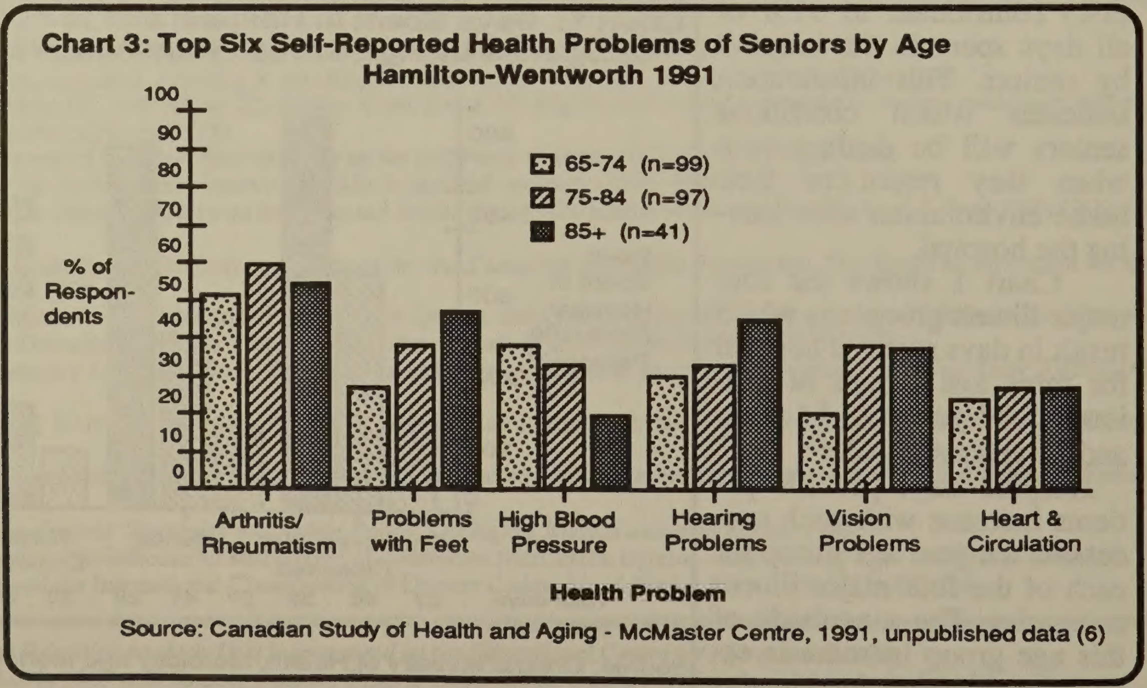


Chart 3: Top Six Self-Reported Health Problems of Seniors by Age Hamilton-Wentworth 1991

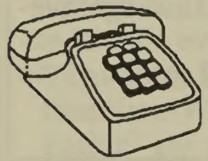
Source: Canadian Study of Health and Aging - McMaster Centre, 1991, unpublished data (6)

The study also reported that 12% of seniors had problems with memory. Additionally, a large number (76%) wore dentures, with 10% indicating that their dentures did not fit to their satisfaction.

How are seniors affected by their health problems?

Although many of the health problems of seniors in Hamilton-Wentworth are an inevitable outcome of the aging process, these problems hold important implications for the maintenance of independence. In particular, the ability to get around within the community, including driving a car, boarding a bus, and participating in social events, are affected by the most common health problems reported by seniors. About 16% of seniors in the CSHA reported that their health problems interfered "a great deal" with their normal activity, while 36% indicated that their problems hampered their activities "a little"[6]. In the OHS, 19% of seniors indicated that, compared with other people of the same age, they were limited in the kind or amount of activity they could do because of a long-term health problem[7]. As well, 59% of all seniors reported pain and discomfort which limited their activity[7].

It is important to prevent, or at least effectively manage, the health problems of seniors in Hamilton-Wentworth so that loss of independence is minimized and quality of life is enhanced. Knowledge of available community health-related resources, and access to them, is critical in dealing with these problems.



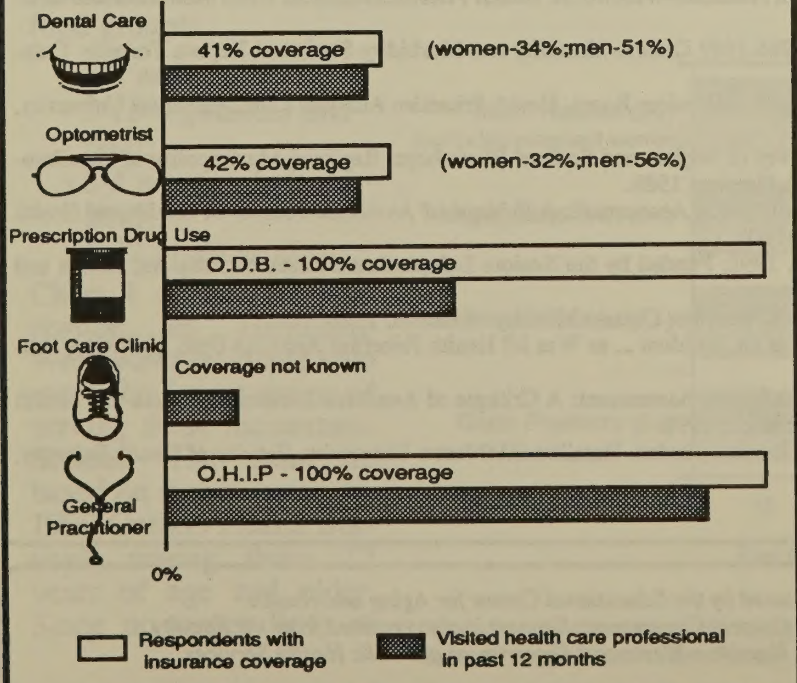
What are seniors doing about their health problems?

One way to examine this question is to look at seniors' access to, and awareness of, health related services in the Hamilton-Wentworth area. Chart 4 reports the percentage of seniors who visited selected health care professionals, as well as the percentage who had insurance coverage for that service[5,8].

The most frequently used services were health and medical services which included a family physician (90%), a medical specialist (43%), dental care (38%), and an optometrist (37%). Seniors reported visiting a pharmacist (11%) and a physiotherapist (6%) less frequently. Insurance coverage was low for dental care and glasses, especially for women. Seldom used services included: counselling (0%), phone health check (2%), nutritionist (2%), and a home health aid (3%)[4,7].

The proportion of seniors reporting prescription drug use (48%) is much lower than the percentage who report "frequent" drug use (69%). The most commonly used drugs among seniors in Hamilton-Wentworth are pain relievers (56%) and heart or blood pressure medication (42%). This use matches the most frequently reported health problems of seniors. The OHS also reported that 82% of seniors had had their blood pressure checked and 40% of senior women had had a breast exam in the past 12 months[7].

Chart 4: Health Professional Visits and Health Service Insurance Coverage of Seniors in Hamilton-Wentworth



Source: 1990 Ontario Health Survey; 1988 Hamilton-Wentworth Services for Seniors Survey

What is being done in Hamilton-Wentworth?

Many organizations are involved in health promotion and disease prevention initiatives for seniors. Some of these are described below:

- The *Hamilton-Wentworth Department of Public Health Services* is working to promote "healthy living with chronic disease" among seniors through the Salvation Army, various Seniors' Centres, and the YWCA. Programs include recreational and social activities, health counselling, and home support;
- Home Care is provided by the *Victorian Order of Nurses (VON)* and *St. Elizabeth Visiting Nurses* (health care) and by *Seniors for Seniors* and the *Visiting Homemakers Association* (housework, cooking & other chores);
- Foot care and dental care clinics are offered by the *VON, St. Peter's Hospital* (Hamilton) and *St. Joseph's Villa* (Dundas);
- The *Educational Centre for Aging and Health* (ECAH) at McMaster University has developed educational programs and resources related to the elderly for health care professionals. The Centre has compiled a listing of these resources[10];
- Several *Clinical Teaching Units* are sponsored by ECAH. These Units are located in health care facilities for seniors such as St. Peter's Hospital and Macassa Lodge. They provide students in the health care professions with the opportunity to learn about the health problems of seniors in a clinical setting;
- The *Heart & Stroke Foundation* sponsors Mall Walks at the Centre Mall and the Limeridge Mall in Hamilton. These walks are for all age groups, but a high proportion of the participants are seniors. These programs provide seniors with a dry, temperature-controlled, safe place to keep active and socialize;
- *St. Peter's Fall's Clinic* - this resource is offered to seniors who have a history of falls. A team of health professionals assesses each client and develops an individualized, fall prevention program.

Methods

Statistics on deaths, hospitalizations, and days spent in hospital at both the regional and provincial levels, were compiled from the 1991 Annual Hospital and Mortality Statistics which is provided annually by the Ontario Ministry of Health. There is a two-year time lag in this data such that the report used for this newsletter includes statistics for each year from 1986-1989. These data are provided to each of the 42 public health units in Ontario and include breakdowns by ten year age groupings as well as by gender.

The 1990 Ontario Health Survey (OHS) provides a health information on the residents of Hamilton-Wentworth. The OHS was a survey of a representative sample of those aged 12 years and older, and included 237 respondents who were over the age of 65.

Data related to service use and awareness were obtained from the Services for Seniors Study Report of Findings from the Survey of Seniors and Seniors' Workshops. This work was sponsored by the Hamilton-Wentworth District Health Council. Data were collected from 677 persons aged 55 years and over through a telephone survey. Participants were randomly selected from Hamilton and the surrounding municipalities of Ancaster, Dundas, Flamborough, Glanbrook and Stoney Creek.

The McMaster Centre data for the Canadian Study on Health and Aging (CSHA) were collected by personal interviews with a random selection of persons aged 65 years and over who were living at home or in long term care facilities in Hamilton-Wentworth. The survey included subjects in three age groups - 65-74 (99); 75-84 (97) and 85 years and older (41). The CSHA was designed to yield prevalence data related to Alzheimer's Disease and other dementias across Canada. Those who were initially screened as cognitively impaired, as well as a control group without impairment, were given a follow-up, extensive clinical examination. Caregivers of those with dementia and a control group were also interviewed. Full results of the CSHA and reports from the smaller regional studies will be available later in 1993.

➜ Now Let's Hear From You ⬅

Your comments and suggestions are important to us and are being incorporated into publications from the Health Priorities Analysis Unit like this ***Infowatch***. Let us know what you think about this issue. Our address and telelphone number are:

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Infowatch is a newsletter of the **Health Priorities Analysis Unit**, and is published when new data are available. It describes health and social data similar to that found in the *Fact Book on the Health Status of Hamilton-Wentworth Residents.*

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Infowatch

Health Priorities Analysis Unit
Faculty of Health Sciences
McMaster University

A Service of the Health Priorities Analysis Unit
To Inform People about Research on Health

March 1993
Volume 6, Number 1

You are what you eat ?

(Nutrition in Hamilton-Wentworth)

What's this issue about?

This issue uses the results of the 1990 Ontario Health Survey[1] to look at the nutritional habits of Hamilton-Wentworth residents. The recommendations of the 1992 Canada's Food Guide to Healthy Eating[2] are used to see whether Hamilton-Wentworth residents are eating a nutritious and well-balanced diet.

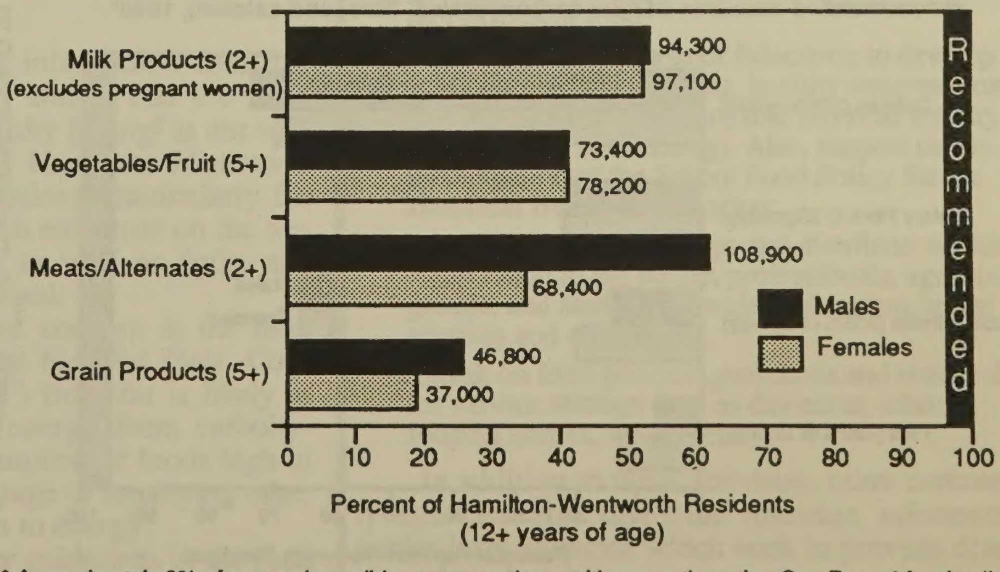
What do the people of Hamilton-Wentworth eat?

The 1992 Canada's Food Guide to Healthy Eating[2] outlines recommendations of what Canadians should eat in order to ensure adequate and proper nutrition. The Food Guide[2] recommends a range of daily servings for each of four major food groups:

- *2-4 milk products;*
- *5-10 vegetables and fruit;*
- *2-3 meat and alternatives;*
- *5-12 grain products;*

Chart 1 shows the proportion of Hamilton-Wentworth residents who meet the lower range of serving these recommendations. The data are based on responses to the 1990 Ontario Health Survey[1], among those 12 years of age and older. Since no upper limit to the number of servings was reported in the survey, the recommended number of servings used in this issue will refer to the minimum number of servings.

Chart 1. Percentage of Hamilton-Wentworth residents (12+ years of age) consuming recommended number of each food group, 1990*.



* Approximately 9% of respondents did not answer the nutrition questionnaire. See Page 4 for details.
Source: 1990 Ontario Health Survey, Hamilton-Wentworth Regional Report (1).

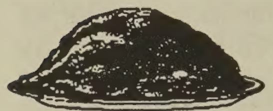
The Four Food Groups:

1. Milk and Milk Products

Consuming at least 2 servings of milk or milk products was nearly equal between the sexes with about 53% of men and 52% of women meeting this recommendation (Chart 1). Pregnant women were excluded in this analysis because of their higher nutritional needs with respect to milk products. Adolescents aged 10-16 years also have a higher recommended number of servings of milk products (3-4 servings). The survey found that 53% of youths 12-19 (the age group in the survey) consumed 3+ servings.

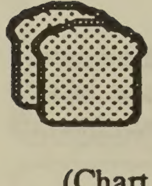
2.Fruits and Vegetables

The recommended 5+ servings of fruits and vegetables were consumed by 56% of men and 54% of women (Chart 1).



3. Meats and Alternatives

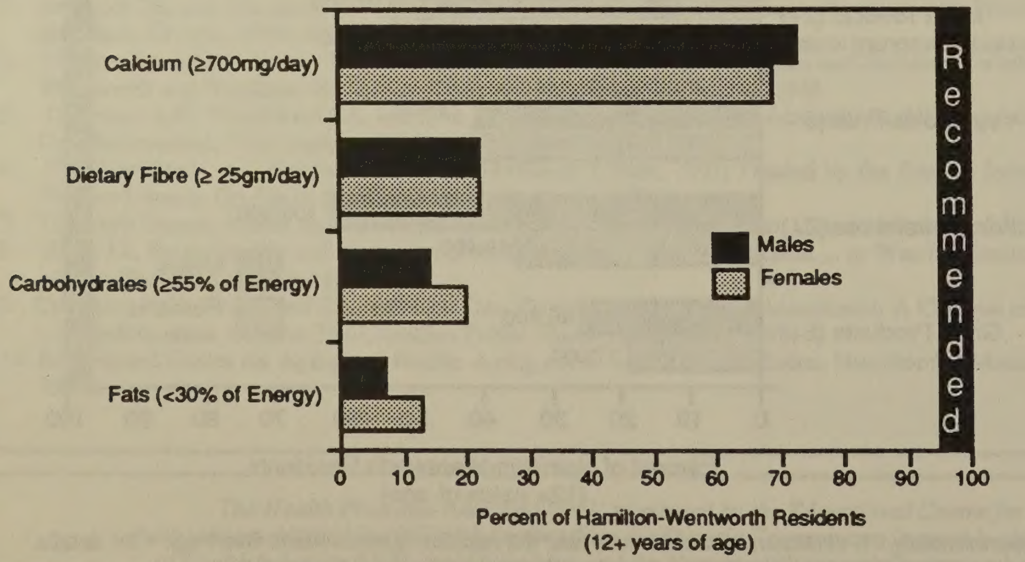
Men reported eating the recommended 2+ servings of meats or alternatives much more often than did women; 62% of men compared to 35% of women (Chart 1).



4. Grain Products

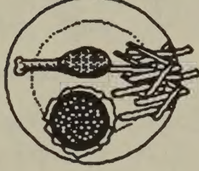
The recommendation for grain products was not well met; 26% of men and 19% of women consumed the recommended 5+ servings of grain products per day (Chart 1).

Chart 2. Percentage of Hamilton-Wentworth residents (12+ years of age) consuming recommended amounts of fats, carbohydrates, fibre, and calcium, 1990*.



* Approximately 9% of respondents did not answer the nutrition questionnaire.
Source: 1990 Ontario Health Survey, Hamilton-Wentworth Regional Report (1).

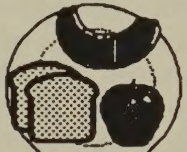
Some Essential Nutrients:



1. Fats

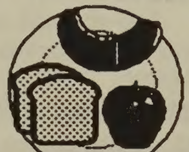
Fats are a source of energy for the body. However, because of the association of high fat diets with many health problems such as heart disease, obesity, diabetes, some cancers, no more than 30% of food energy should come from fats[3,4]. Fats are high in foods such as fried foods, salad dressings, pastries, cream, and potato chips.

Most residents of Hamilton-Wentworth reported consuming high fat diets (Chart 2); only 7% of men and 13% of women reported consuming the recommended 30% or less of their daily energy from fat.



2. Carbohydrates

Carbohydrates should be the major source of energy comprising at least 55% of energy intake[4]. Only 14% of men and 20% of women, reported meeting this recommendation (Chart 2). Foods high in carbohydrates are found mainly in grain products (bread, pasta, and rice), as well as vegetables and fruits (vegetables, dried beans and peas, apples).



3. Dietary Fibre...

Fibre is important for maintaining good bowel function as well as for reducing the risk of developing cancer of the bowel[5]. While a recommendation for daily dietary fibre is not yet available, fibre is recognized as an important part of a complete diet[1,4]. About one in five people (22%) reported consuming a relatively high fibre diet (that is, at least 25 gm per day) (Chart 2). Dietary fibre can be found in foods such as grain products (whole grain breads, cereals, and rice), and vegetables and fruits (dried beans and peas, apples, potatoes with skin, dried fruits). Note that foods high in fiber are often high in carbohydrates.

4. Calcium

Calcium is important for the growth and maintenance of strong bones and teeth[6]. It is also necessary for many metabolic processes in the body such as blood clotting, hormone function, and muscle movement[4,6]. About 7 out of 10 men and women reported consuming an adequate amount of calcium in their diet, that is, at least 700 mg per day (Chart 2). Recommended daily calcium, however, is known to change with age, and the needs of women may be higher after age 50 years[4]. This recommendation, therefore, may not meet everyone's needs. Calcium can be found in dairy products, green leafy vegetables, and dried beans.

Why a Food Guide?

The 1992 Canada's Food Guide to Healthy Eating was developed over several years and encompassed reviews of the nutrition literature, nutrition expert consultations, and focus group testing[2]. The goal of the Food Guide is to advise and educate people about making wise food choices. This includes providing recommendations aimed at reducing the risk of heart disease, certain cancers, osteoporosis, obesity, as well as conditions which result from nutrient deficiency or excess. The Guide is also used by institutions and agencies as a reference standard for food services. In addition, the Guide can be used by individuals to assess the adequacy of their diet.

Rather than being restrictive, the Food Guide emphasizes *variety*. The guidelines provide the following advice to help people make healthy choices with respect to eating:

- choose more cereals, breads, other grains, vegetables and fruits;
- choose lower-fat dairy products, leaner meats, and foods prepared with little or no fat;
- achieve and maintain a healthy body weight by enjoying regular physical activity and healthy eating;
- limit the use of salt, alcohol and caffeine.

What does this mean to Hamilton-Wentworth?

In Hamilton-Wentworth, the information from the 1990 Ontario Health Survey shows that the 1992 Canada's Food Guide to Healthy Eating[2] is not well followed. Many residents of Hamilton-Wentworth fail to meet the recommendations, particularly for servings of grain products. An emphasis on the importance of grain products, as well as fruits and vegetables should be encouraged.

A second major area of concern is the high proportion of people who eat high fat diets. Consuming energy (or "calories") from fat is likely at the expense of consuming energy from carbohydrates. Shifting to the consumption of foods high in carbohydrates has the advantage of supplying other essential nutrients in addition to energy.

With respect to the other guidelines in the food guide, body weight, physical activity and nutrition are recognized as important determinants of health, and will be the subject of a future ***Infowatch***. No information was available in this survey on salt and caffeine use. Alcohol use in Hamilton-Wentworth has been a topic of a previous issue[7].

Changes in the nutrition habits of Hamilton-Wentworth residents should be encouraged to move towards improved food choices which should ultimately improve health.

What is Hamilton-Wentworth doing to address this problem?

In order to address the problems raised above, the Nutrition Division of the Hamilton-Wentworth Department of Public Health Services has initiated a number of activities to increase awareness of healthy eating, and to develop environments that encourage healthy food choices. These activities consider individuals and populations with the aim to improve the health of the community through better nutrition. A few of the activities are described:

1. Approaches aimed at individuals

- Supermarket Safari: a supermarket-based nutrition education program to improve individuals' food purchasing skills;
- classes to develop skills in food preparation for specific individuals and groups;
- programs which make nutrition information and advice available to workers, pregnant women in prenatal classes, and teenage girls who have unhealthy body images.

2. Approaches aimed at populations

- consult and collaborate with the media;
- participate on the Greater Hamilton Food Share, Food and Shelter Advisory Committee, and Promise the Children 2000 to establish policies and programs that enable individuals and families to obtain sufficient food;
- collaborate with Boards of Education to develop curricula on healthy eating, healthy weights, positive body image, and enjoyable physical activity (children and adolescents). Also, support the implementation of the School Food Policy for the Hamilton Board of Education;
- consult, provide workshops and distribute nutrition information to the public, professionals, agencies, groups, and students in health, education, social services and recreation;
- consult on food policies, guidelines and standards for various settings such as day cares, schools, lodging homes, workplaces.

In addition to these activities, other community agencies also distribute nutrition information, particularly agencies which seek to prevent diseases such as heart disease, cancer, osteoporosis, and others[4].

Methods

The 1990 Ontario Health Survey (OHS) was conducted by the Ontario Ministry of Health to gather information on the determinants of health among residents of Ontario[1]. These data have been made available at the local level through provision to local Health Departments and District Health Councils. Data were collected by both interview and self-administered questionnaires. The interview involved gathering data on all members of a household from a single knowledgeable member of the household. The self-administered questionnaire was left for each member of the household aged 12+ years and was picked up later by the interviewer. In Hamilton-Wentworth, information from both questionnaires was obtained on 1,340 people, a response rate of 74%. Detailed methodological information is given in the OHS documentation[1]. With this sample size, estimates in this issue of ***Infowatch*** are within 5 percentage points, 95 times out of 100.

Nutrition: The OHS used a food frequency questionnaire to measure nutrition, recognizing the limitations of such an approach[1]. Although assumptions are required to estimate the amounts of nutrients from such categorical data, the advantages of this format included ease of completion and relatively low cost and were thought to outweigh the limitations[1]. While the Food Guide recommends a limit to the number of servings, the published OHS data did not report upper limits. In addition, while the data presented here were tabulated based on the 1992 Food Guide Recommendations, the survey was conducted when an older version of the Food Guide was in use which recommended fewer servings of grain products (3+), and fruits and vegetables (4+). Differences between the two versions also exist in serving size. At present, no data are available to assess the impact of these problems on the data. By presenting these data in broad classifications, small inaccuracies should be minimized.

Overall, approximately 9% of people did not answer questions in the nutrition section of the questionnaire. The percentages shown in the charts are based on the total sample.

→ Now Let's Hear From You ←

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The Health Priorities Analysis Unit is sponsored by the Educational Centre for Aging and Health which was established in 1987 with funding from the Ontario Government. Support is also received from the Faculty of Health Sciences, McMaster University, and the Hamilton-Wentworth Department of Public Health Services.

Infowatch

Health Priorities Analysis Unit
Faculty of Health Sciences
McMaster University

A Service of the Health Priorities Analysis Unit
To Inform People about Research on Health

August, 1993
Volume 6, Number 2

A Healthy Balance!

Weights and Physical Activity Patterns in Hamilton-Wentworth

(Adults aged 20-64 years)

What's this issue about?

A previous issue of Infowatch[1] outlined Canada's recently revised National Guidelines to Healthy Eating. One of these guidelines advises Canadians to "maintain a healthy body weight through healthy eating and regular physical activity"[2]. Body weights that are outside a defined "healthy weight zone"[3] have been linked to several health problems including cardiovascular disease which is the leading cause of death and hospitalization in Hamilton-Wentworth[3-5]. Appropriate physical activity is important for achieving and maintaining a healthy weight and it also reduces the risk of health problems such as cardiovascular disease, respiratory disease, osteoporosis and diabetes[6-8]. This issue of Infowatch looks at body weights and physical activity patterns in Hamilton-Wentworth using the results from the 1990 Ontario Health Survey[9].

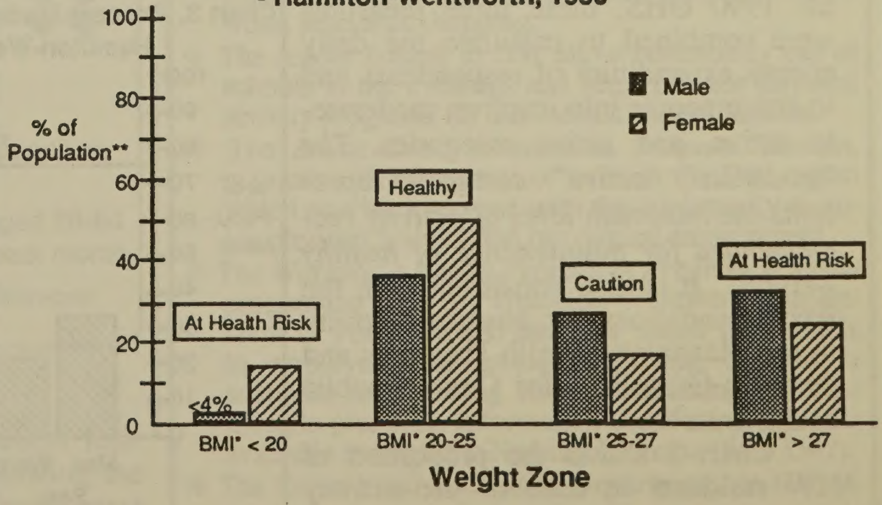
What is a healthy weight?

A healthy weight is a combination of strong, healthy bones, adequate muscle development, and low to moderate levels of body fat. Healthy weight is unique to each individual since the relative proportion of bone, muscle and fat are partially determined by heredity[10].

One way to assess healthy weight in adults is to look at both the height and weight of the individual. This measurement is known as body mass index (BMI). It is calculated by dividing the body weight in kilograms (kg) by the height in metres squared (m^2). For example an individual who is 1.57 m tall (5'2") and weighs 54.5 kg (120lb), would have a BMI of 22. A BMI between 20-25[11,12] represents a "healthy weight zone" which is associated with a lower occurrence of high blood pressure, diabetes, heart disease, and cancer. (Another method of calculating BMI is provided on the last page of this newsletter).

Chart 1 shows the percentage of males and females in Hamilton-Wentworth (HW) between the ages of 20 and 64 years in each of four weight "zones" based on BMI. In the 1990 Ontario Health Survey (OHS), almost 60% of HW residents aged 20-64 years were in the healthy weight zone, while 12.9%

Chart 1. Weight Zones* for Adults (20-64 years) by Sex - Hamilton-Wentworth, 1990

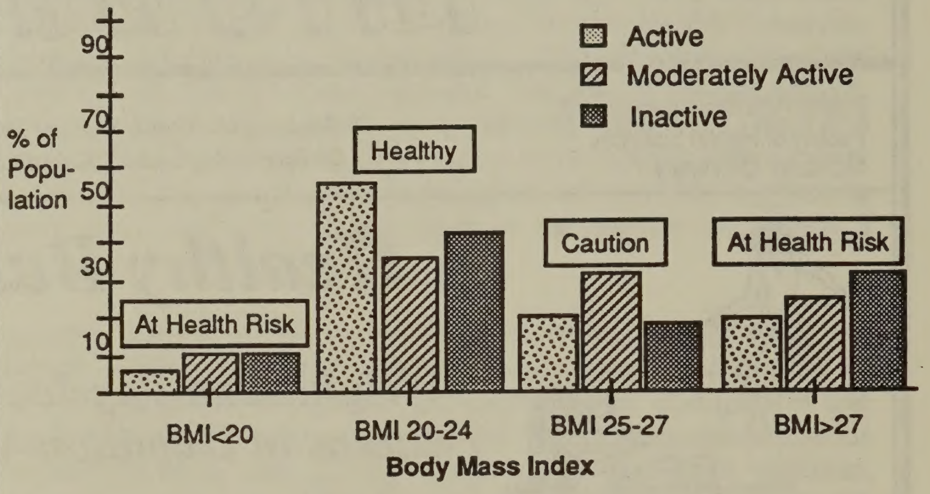


* Weight zones based on Body Mass Index (BMI) = weight (kg)/height (m) squared.
** Hamilton-Wentworth population aged 20-64: males - 129,600; females - 127,500.
Source: 1990 Ontario Health Survey, Hamilton-Wentworth Regional Report, 1992.

were below the healthy zone and 26.8% were above it.

Using BMI to look at healthy weights is not appropriate for children, adolescents, pregnant women, seniors (aged 65+) or certain athlete populations (e.g., distance runners, weight lifters)[11,12].

Chart 2. Body Mass Index (BMI)* by Activity Level, Ages 20 - 64 Years, Hamilton-Wentworth, 1990**



* Body Mass Index =weight (kg) /height (m squared)

** Active = >2.9 kcal/kg/day energy expenditure; Moderate = 1.5-2.9 kcal/kg/day; Inactive = <1.5 kcal/kg/day

Source: 1990 Ontario Health Survey, Hamilton-Wentworth Regional Report, 1992

...Body Mass Index above and below the "Healthy Zone"

More men (33%) than women (21%) in HW were above the healthy weight zone in the 1990 OHS. Excess weight due to large amounts of body fat is related to several health problems including heart disease, diabetes, and respiratory disease.

More women (12%) than men (<4%) have BMIs below the healthy zone. Low BMI is associated with reduced bone mass and increased risk of osteoporosis[13]. It may also indicate malnutrition which may have been caused by heavy smoking, heavy alcohol consumption, or eating disorders[14].

How does physical activity relate to healthy weight?

Appropriate physical activity has a positive effect on all three components of body weight. It reduces body fat, promotes the development of healthy bone, and increases and strengthens muscle.

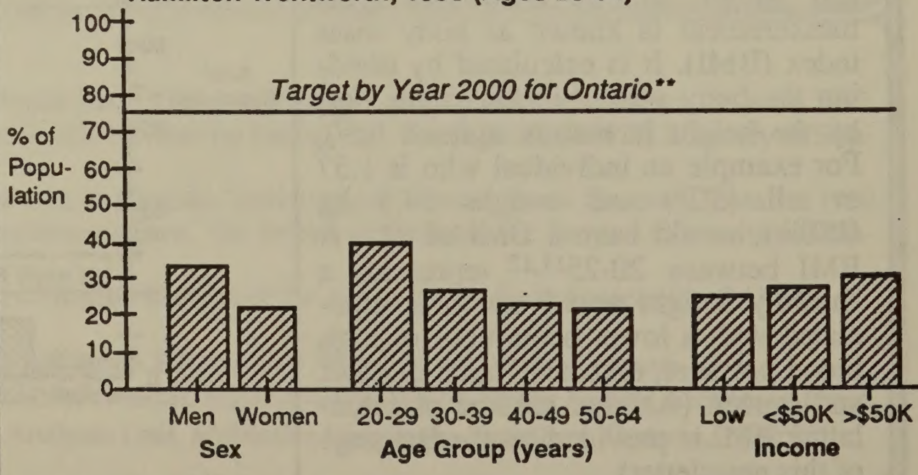
Type, frequency and duration of activity are all important considerations in the relationship between physical activity and healthy weight. In the 1990 OHS, these three measures were combined to calculate the daily energy expenditure of respondents and to group people into inactive, moderately active, and active categories. *The "moderately active" category represents the minimum level of activity recommended for maintenance of healthy weight*[15]. It is also consistent with the recommendations for physical activity in the Mandatory Health Programs and Services Guidelines for Ontario public health units[16].

Chart 2 shows the proportion of HW residents in each of the activity categories who are at health risk due to high or low BMI. The most active HW adults were less likely to be in the at risk weight zones (high-19%;low-6%) compared with those who were moderately active (24%;10%) or inactive (30%;10%).

How active are we?

Chart 3 gives the percentage of HW adults who were at least "moderately active" by sex, age and income in 1990. As in 1989[17], females in HW were less active than males. Those in the lower income groups were also less active. The proportion of moderately active individuals also drops off with each successive age grouping. Activity levels for those aged 20-64 in Hamilton-Wentworth were much lower than the targetted levels for health as set by the province[16].

Chart 3. Percent Moderately Active* by Age, Sex and Income, Hamilton-Wentworth, 1990 (Ages 20-64)



* Moderately Active = >1.5 kcal/kg/day energy expenditure, e.g. - walking briskly for 40 minutes, 3 times per week

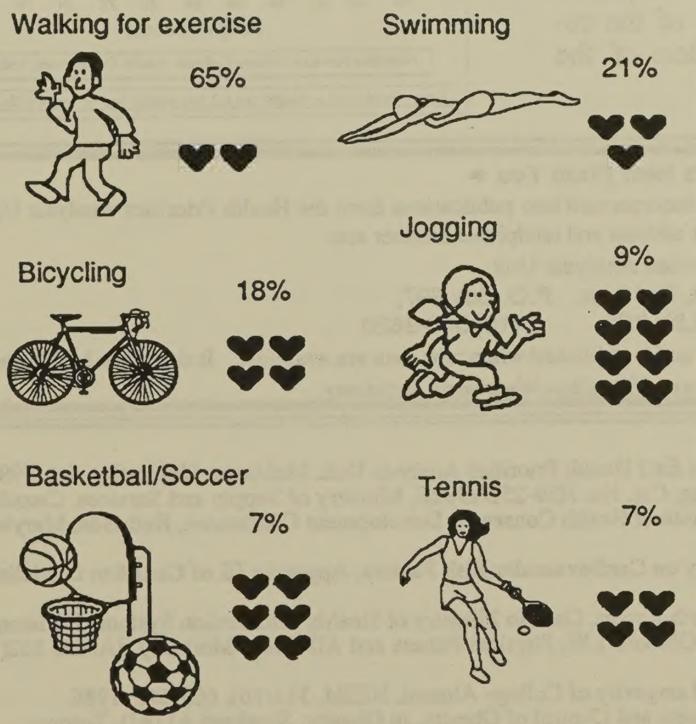
** Source: Mandatory Health Programs and Services Guidelines for Public Health Units, Ontario Ministry of Health, 1989

What type of activity is best?

The most effective type of activity to maintain healthy weight, is one which requires sustained movement of large muscle groups (e.g., legs, trunk, arms) over a long period of time (at least 15 minutes continuously)[15]. Chart 4 gives examples of these types of activities with the corresponding energy demand for each activity and the proportion of Hamilton-Wentworth residents who had participated in that activity in the month previous to the 1990 OHS.

Participation levels were highest for walking (65%) which is the least demanding, but most convenient and accessible activity. Other popular activities were swimming (21%), cycling (18%), jogging (9%), basketball or soccer and tennis (all 7%).

Chart 4: 1990 Physical Activity Patterns in Hamilton-Wentworth - Percent Participation and MET* Value of Popular Physical Activities



*♥ = 1 MET = activity requires energy expenditure of 1 kcal per kg per hr

Percentages indicate % of H-W residents, aged 20-64 years who participated in that activity in the past month.

Source: 1990 Ontario Health Survey, Hamilton-Wentworth Regional Report, 1992

Feelings about Body Weight

Nearly half (47%) of Hamilton-Wentworth residents planned to lose weight in the year following the OHS. This included 82% of those whose body mass was in the highest risk zone (BMI >27). However, nearly half of those aged 20-64 who wanted to lose weight were already in the healthy weight zone[9].

Feelings about Physical Activity

Forty-four percent of the inactive group believed that their current activity level could lead to future health problems compared with 19% of the regularly active respondents. However, only 39% of the inactive group planned to increase their exercise in the next year compared with 56% of the regularly active group[9].

What can we do in Hamilton-Wentworth?

Health and Welfare Canada has stated that in order to promote healthy weights, communities face the challenge of encouraging citizens to develop and maintain appropriate eating habits and physical activity patterns[11,12]. Hamilton-Wentworth is meeting this challenge with initiatives which promote both healthy eating and physical activity. Several of these are listed below:

* Programs such as the *Mall Walks* at *Limeridge* and *Centre Malls* in Hamilton offer the opportunity to be active with family (including young children) and friends at no cost. This type of program is important since people are more likely to be active if their friends are also active and if the activity is inexpensive and convenient[18-20].

* The *YMCA* offers a program, *Y Weight*, which teaches participants about the importance of both healthy eating and regular physical activity in weight control.

* Employers such as *McMaster University* provide workplace physical activity opportunities as well as assessments of both physical fitness and healthy weights.

* The *Region of Hamilton Wentworth* recently made changes to allow for bike lanes on Main and King streets in Hamilton which encourages cycling to work, school or shopping.

* The *school boards* in HW allow community use of schools in the evenings and often provide physical activity programs for individuals and/or families.

* The *Bruce Trail Association, Iroquoia Section*, maintains 70 kilometres of trails in the HW region which provide everyone with the opportunity to enjoy physical activity and our natural environment.

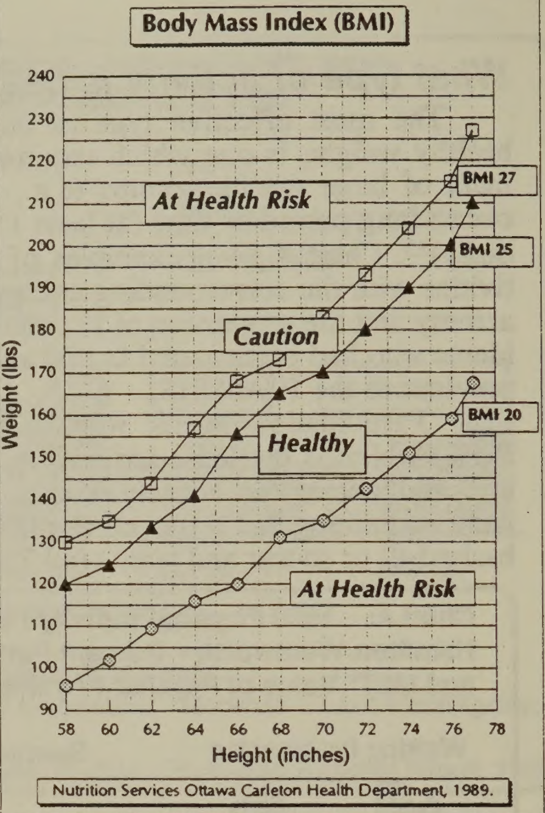
* The *Workplace Health Promotion Program* is a new programme with the Hamilton-Wentworth Department of Public Health Services which is available to employers and employee groups. Support is available for planning and implementing healthier lifestyle practices. Information about the program is available through the Nursing Division (546-3547).

* The *Culture and Recreation Departments* in HW offer recreation centre memberships at a reasonable price. These facilities offer people of all ages the opportunity to participate in regular physical activity.

Methods

The 1990 Ontario Health Survey provides health-related information on the residents of Hamilton-Wentworth. It was a representative, random survey of 1,641 persons with a response rate on the sections relevant to physical activity and body weight of 79.9%. Body mass index (see nomogram for easy calculation) was estimated only for those aged 20-64 years (n=969).

Respondents were asked to report on their participation in each of 17 common physical activities. Activities on the list had been included in previous Ontario and Canadian physical activity surveys. Respondents were also given the opportunity to add activities which were not on the list. Energy demand (MET) values were assigned to each activity according to the oxygen requirement of the activity when carried out at medium intensity. The MET values were used in combination with the reported duration (in minutes) and frequency (number of sessions per week) of the activity to estimate daily energy expenditure (EE) for each individual. Respondents were then categorized as "inactive" (EE < 1.5), "moderately active" (EE = 1.5-3.0) or "active" (EE > 3.0). Approximately 8% of the respondents did not fully complete the activity section of the questionnaire and therefore could not be categorized.



Nutrition Services Ottawa Carleton Health Department, 1989.

Note: Height (m) = height (in) x 2.54; weight (kg) = weight (lbs) /2.2

➡ Now Let's Hear From You ⬅

Your comments and suggestions are important to us and are being incorporated into publications from the Health Priorities Analysis Unit like this ***Infowatch***. Let us know what you think about this issue. Our address and telelphone number are:

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Infowatch is a newsletter of the Health Priorities Analysis Unit, and is published when new data are available. It describes health and social data similar to that found in the *Fact Book on the Health Status of Hamilton-Wentworth Residents*.

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6.2. Sustainable Development Task Force Fact Sheets

Task Force on Sustainable Development

economic, social and environmental planning for the future

ECONOMY

Introduction

This fact sheet provides a brief overview of the Region's economy, with particular emphasis on employment growth and specialization. These factors play an important role in the ability of a regional economy to capitalize on economic upturns and minimize the impacts of economic downturns. Other economic indicators such as bankruptcy statistics, housing starts and income levels are also presented to give an indication of recent economic trends in Hamilton-Wentworth.

Employment

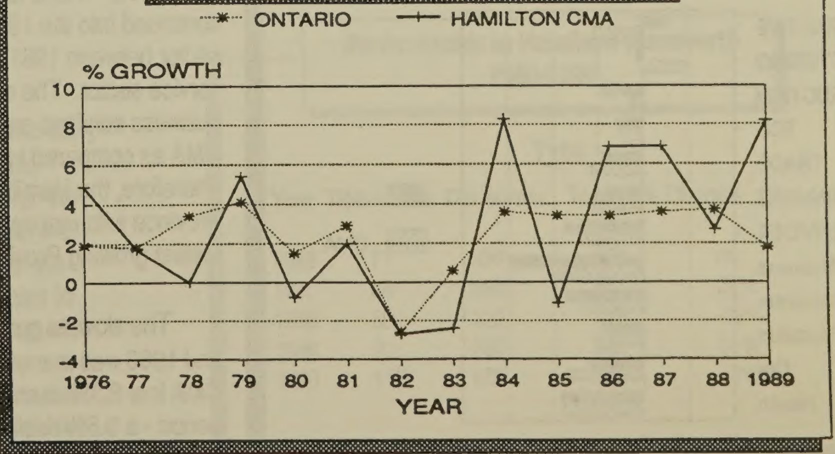
Census metropolitan area (CMA) data is used in this section because the 1981 and 1986 Census provides a more detailed sectoral breakdown of employment for the Hamilton CMA[1] than for the Regional Municipality of Hamilton-Wentworth.

Employment Growth

Between 1971 and 1981, the labour force growth rate in Ontario and the Hamilton CMA was approximately the same with Ontario experiencing a 33% increase and the Hamilton CMA experiencing a 31% increase. The Hamilton CMA experienced strong employment growth during the mid to late 1980's. In 1989, there were 329,000 employed residents in the Hamilton CMA representing an increase of approximately 32% over 1980. Over the same period, the number of people employed in the Province of Ontario increased by only 22%. Since 1986, growth in the employed labour force in the Hamilton CMA has been very strong in comparison to the Province.

Growth in the Region's employed labour force has been much more volatile than in the Province as a whole due to the high degree of local specialization in manufacturing. The recession of the early 1980's had a more severe and lasting impact on employment growth in the Hamilton CMA than it did on the Province. In 1983, when the recession had largely ended, employed labour force growth was positive in Ontario while the Hamilton CMA experienced a 2.4% decline. This was due to the large decreases in manufacturing employment during the recession.

Employed Labour Force Growth in Ontario and Hamilton CMA, 1976-1989



Source: Statistics Canada, 71-001, 71-201, 71-529

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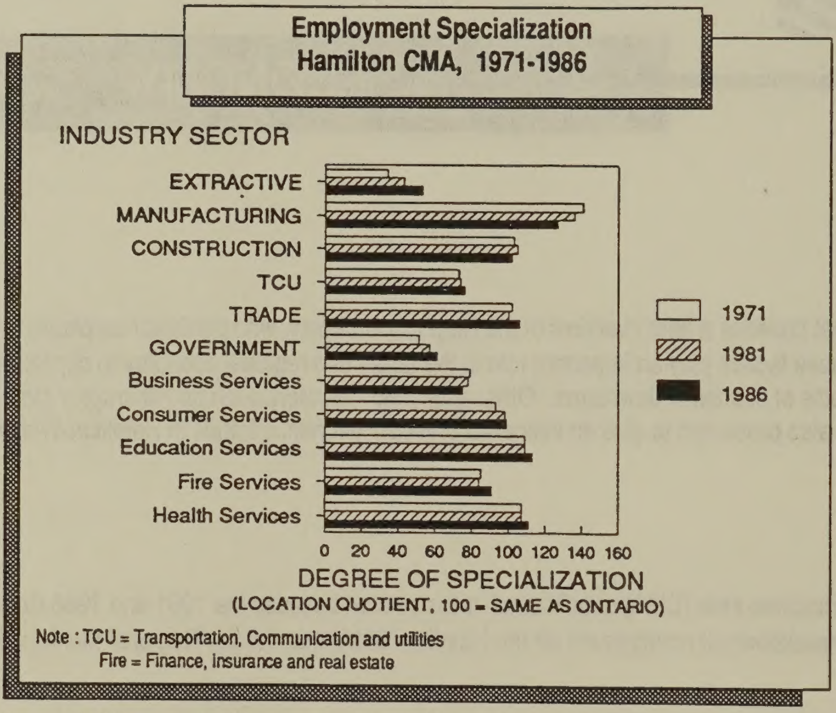
[1] The Hamilton CMA consists of the Regional Municipality of Hamilton-Wentworth plus Burlington and Grimsby.

Structure of the Regional Economy

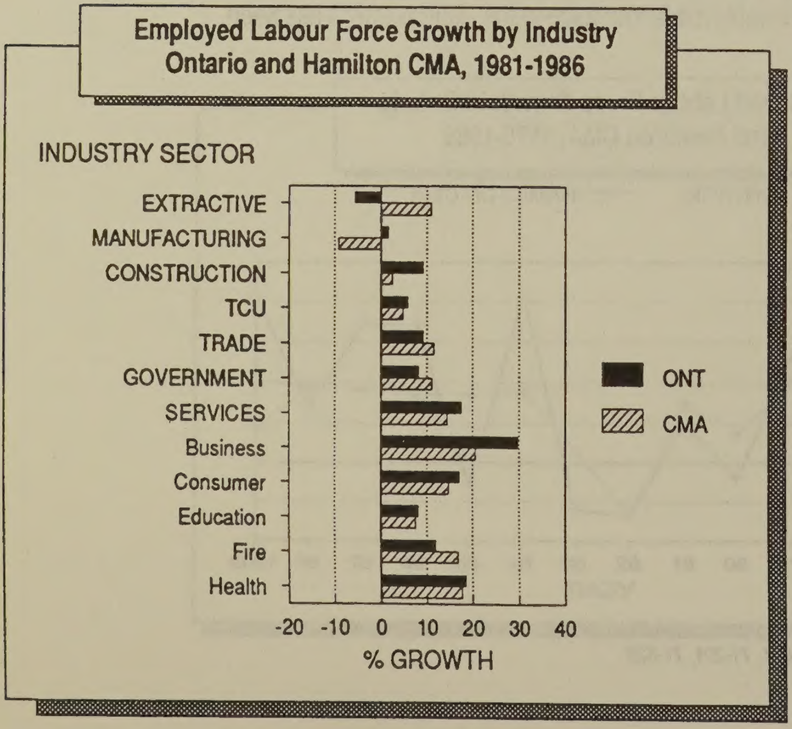
A location quotient is used to measure employment specialization. When the Hamilton CMA has a larger share of its employment in a sector than does Ontario, then the location quotient is greater than 100 and employment specialization exists.

Relative to the Ontario economy, the Hamilton CMA decreased its reliance on manufacturing employment over the period 1971 to 1986. However, the Hamilton CMA is still heavily specialized in manufacturing. The Regional economy is also specialized in the construction, trade, education and health services sectors. The Regional economy is relatively under specialized in: extractive industries, TCU, government services, services to business and Fire. Over the period 1981 to 1986, the Hamilton CMA increased its specialization in the consumer, education and health services sectors as well as the finance, insurance and real estate sector.


Employment Specialization
Hamilton CMA, 1971-1986

Note : TCU = Transportation, Communication and utilities
Fire = Finance, Insurance and real estate

Source : Statistics Canada, Census of Canada, 93-966, 93-152, 93-156


Employed Labour Force Growth by Industry
Ontario and Hamilton CMA, 1981-1986

Source : Statistics Canada, Census of Canada, 93-152, 93-156

Industry Sector Trends

The fastest growing sector between 1971 and 1981 was the service sector. Business, consumer and Fire services exhibited strong growth. Manufacturing, construction and extractive industries exhibited slow growth over this period. These fundamental structural shifts continued into the 1980's. The fastest growing sector between 1981 and 1986 was again the service sector. The employed labour force in business services grew by 21% in the Hamilton CMA as compared to 30% in the Province. Therefore, the Hamilton CMA lost ground to the Province with respect to business services, the fastest growing Provincial employment sector.

The slowest growth sector between 1981 and 1986 was manufacturing. The Hamilton CMA lost 8,350 manufacturing jobs over this period - a 9.5% decline. Manufacturing employment in the Province fared better, but still grew only 1.5% over the same period. Between 1981 and 1986, the Hamilton CMA had a higher employment growth rate than the Province in the extractive, trade, government, and Fire sectors.

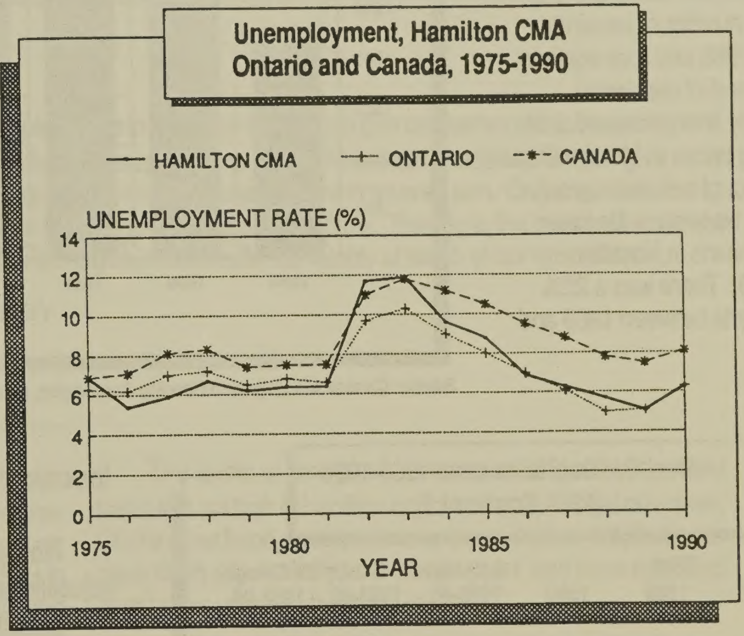
In terms of employment, the manufacturing sector is decreasing in importance while the service sector is increasing. In 1981, the Hamilton CMA's employed labour force in the service sector was approximately the same size as the employed labour force in the manufacturing sector, with each sector representing approximately 33% of the employed labour force. By 1986, there was approximately 25,000 more people employed in the service sector than in the manufacturing sector. Manufacturing represented 28% of the employed labour force while services increased to 37%.

Unemployment

The Hamilton CMA and Ontario followed roughly the same pattern of unemployment rates over the last 15 years. In general, both the Hamilton CMA and Ontario experienced lower unemployment rates than Canada as a whole. During the late 1970's, the unemployment rate in the Hamilton CMA was lower than the Provincial rate.

However, during the recession of the early 1980's, the Hamilton CMA had a higher unemployment rate than the Province. The local unemployment rate did not come back into line with the Provincial rate until 1986. This suggests that due to local specialization in manufacturing, not only did the Hamilton CMA have a higher unemployment rate during the recession, but it took much longer for the local unemployment rate to drop once the recession was over.

Unemployment, Hamilton CMA Ontario and Canada, 1975-1990



Source : Statistics Canada, 71-001, 71-201, 71-529

Since 1986, the Regional unemployment rate has been about the same as the Provincial rate, and in 1987 and 1988 was actually less than the Provincial rate. The increase in the unemployment rate in 1990 for Canada, Ontario and the Hamilton CMA is symptomatic of Canada's entry into a recession in 1990. Unemployment rates in 1991 are expected to be higher than 1990 rates.

Business Activity

Bankruptcies

Bankruptcies in Hamilton-Wentworth were fairly low over the 1986 to 1988 period. In 1989, the number of bankruptcies increased by 81% over the 1988 figure. This trend continued in 1990 with the number of bankruptcies growing as a result of the recession. In 1990, the number of bankruptcies in Hamilton-Wentworth reached almost 1,000, up 46% over the 1989 figure. This 46% increase in bankruptcies is approximately the same as the rate of increase in bankruptcies for Canada as a whole (44%), and is far less than the 81% increase in bankruptcies in Ontario between 1989 and 1990.

Bankruptcies in Hamilton-Wentworth 1986-1990

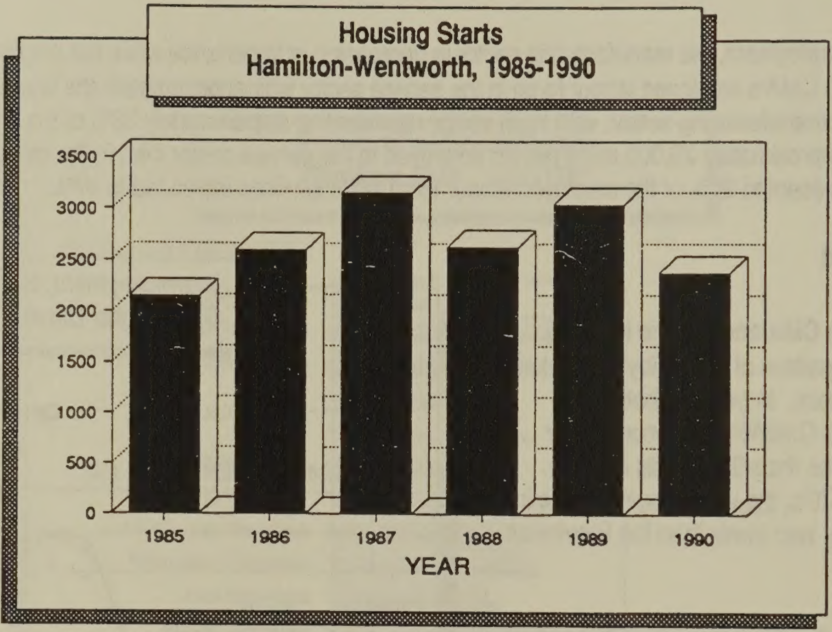
	Type			
Year	Business	Consumer	Total	% Change
1986	77	359	436	na
1987	64	487	551	26%
1988	53	322	375	-32%
1989	90	590	680	81%
1990	115	880	995	46%

Source: Consumer and Corporate Affairs, 1990

Regional Trends

Housing Starts

In 1987, housing starts reached a record high in Hamilton-Wentworth with 3,155 starts. The number of housing starts dropped in 1988 and rose again in 1989. This high level of residential construction activity is in part a result of escalating housing prices in Metropolitan Toronto. The effect of a slumping real estate market can be seen in the lower figure for housing starts in Hamilton-Wentworth in 1990. There was a 22% drop in housing starts between 1989 and 1990.



Source: Canada Mortgage and Housing Corporation, Local Housing Market Reports

Income

Real per capita income is calculated by adjusting per capita income for inflation using the consumer price index.

Real per capita income in 1990 for Hamilton-Wentworth was $15,230. This was slightly below the Provincial figure of $15,980, but well above the national figure of $13,810.

**Real Per Capita Income, 1986-1990
(1986 Constant $)**

	Year 1986	1988	1990	% Change 1986-88	% Change 1988-90	% Change 1986-90
H-W	13,040	14,825	15,230	3.7%	2.7%	16.8%
Ontario	13,935	15,840	15,980	13.7%	0.9%	14.7%
Canada	12,720	13,630	13,810	7.2%	1.3%	8.6%

Source: Financial Post, Canadian Markets, Consumer Price Index, Statistics Canada, 62-010, 62-001

Per capita income in Hamilton-Wentworth increased from $13,040 in 1986 to $15,230 in 1990. This represents a 16.8% increase which is higher than the 14.7% increase for the Province and the 8.6% increase for Canada as a whole over the same period. While growth in real per capita income was low between 1988 and 1990, the Region had a higher growth rate than Ontario and Canada.

Conclusion

The recession of the early 1980's had a significant impact on the structure of the economy and employment growth in the Region. Manufacturing was hardest hit and the Region suffered large manufacturing job losses and relatively high unemployment rates. Economic indicators show that the Regional economy posted very strong growth in the period 1986 to 1989. The Regional economy has diversified a great deal since the 1970's and early 1980's, but still remains specialized in manufacturing. How severely the present recession affects the Regional economy will depend in large part on the particular sectors which are hardest hit by the downturn, and the extent to which the Regional economy has actually diversified.

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economic, social and environmental planning for the future

ENVIRONMENT

Introduction

Measurements of air quality, water quality and landscape change in Hamilton-Wentworth give us a sense of the human impact on important parts of the local environment. However, statistical measurements of environmental conditions do not give us a complete understanding of the ways we are influenced by and influence the ecosystems of which we are a part. Only some indicators, such as the health of a particular species, can tell us about the function and balance of the whole. Therefore, the facts below merely skim the surface of some very complex interrelationships which together determine the quality of much of our environment.

AIR QUALITY

The annual number of air quality advisories issued for the City of Hamilton has varied between 1 and 10. Weather conditions (inversions) which hold pollutants near the ground play a significant role in the number of high pollution episodes in Hamilton. Many contaminant levels declined in the 1970s and early 1980's but have remained relatively stable over the last five years. However, ground level ozone and total suspended particulate continue to periodically exceed provincial standards at some stations. Occasionally, standards for total reduced sulphur are exceeded and cause unpleasant odours.

Ground level ozone is transported long distances and is a problem throughout Southern Ontario. Improvements in overall air pollution cannot be achieved solely by reducing local industry emissions. Increasing attention would have to be directed at reducing transportation sources and small but wide-spread sources of pollution like home-heating sources. Sampling during high pollution periods indicates that vehicle emissions are primary sources of gaseous pollutants.

The acidity of local rain depends on emissions from distant sources, particularly those in the Ohio valley. Moderate dieback in hardwood trees has been observed in the Niagara Peninsula area and South-Western Ontario. The soils in this area are generally moderately capable of buffering the effects of acid rain. A local phytotoxicology survey shows improvements in leaf health since the early 1970's. There is however scattered evidence of early leaf fall in silver maples. Local ambient levels of sulphur dioxide declined in the late 1970's and early 1980's. Recently these levels have remained relatively steady. Levels of nitrogen dioxide have also been relatively steady.

The levels of heavy metals measured in total suspended particulate are high in Hamilton and occasionally exceed objectives. On the other hand, levels of lead and iron in Silver Maple leaves have fallen substantially from earlier years and have stabilized at or below urban background levels.

WATER QUALITY

Excessive Nutrients

Lake Ontario: About 9,561 tonnes of phosphorus enters Lake Ontario per year, 2,500 tonnes over the target figure of 7,000 tonnes. While the loading targets have not been met, the concentration objective for the lake has been achieved. Nitrate-plus-nitrite (NO2 + NO3) concentrations in the lake almost doubled between 1967 and 1987 but have not risen above safe levels for drinking water.

Hamilton Harbour: Objectives are not yet being met for total ammonia and phosphorus in the Harbour although process adjustments at the Woodward Sewage Treatment Plant have resulted in significant reductions in phosphorus. Combined Sewer Overflow retention for the Red Hill Creek drainage area has reduced volumes of raw sewage going into the Harbour by 25 percent. Soil erosion in upstream areas contributes 20 % to nutrient loadings. The impact of significant reductions in the loadings of nutrients on total Harbour concentrations of phosphorus, algae, ammonia and dissolved oxygen is being monitored. The clarity of the Harbour water has improved noticeably. Nevertheless, the long term objective for dissolved oxygen is 4 mg/l whereas current levels fall short, averaging about .5mg/l.

Toxic Contamination

Lake Ontario: 1984 -1986 data for organic chemicals show that in open water nearly all contaminants had concentrations below the Great Lakes Water Quality Objectives. Higher levels were recorded near connecting channels and the mouths of tributaries. Of all the Great Lakes, Lake Ontario has the highest mean concentration of chlorobenzenes, PCBs, lindane, eldrin and p,p'-DDE. Open lake concentrations of metals were low. Sediments contain elevated levels of metals and organic chemicals.

Hamilton Harbour: Industrial discharges of heavy metals, phenols and cyanide have declined substantially from the early 1980's. Harbour concentrations for these contaminants in the open water now meet provincial objectives. Significant levels of nutrients, heavy metals, polyaromatic hydrocarbons and PCBs in surface sediments have been found in several parts of the Harbour.

The volume of household hazardous substances or industrial chemicals discharged into the sewage system regularly or by accident is unknown. More extensive testing in the future will produce data on the composition of the wastes being discharged through the sewage system. Approximately 140 contaminants are being monitored.

Bioaccumulation: The International Joint Commission has raised concerns regarding the health effects of overall levels of toxic chemicals in the Great Lakes ecosystem. There is direct evidence of human health effects from consumption of contaminated fish from the Great Lakes. Health advisories on some sizes of sports fish have been downgraded for some species of Lake Ontario fish.There are increasing reports of the incidence of fish tumours in localized areas of Lake Ontario. In 1987 PCB concentrations in lake trout were significantly higher than those reported in 1985 and 1986. No significant changes in PCB concentrations showed up in smelt over the same period. Mirex, DDT and dieldrin in both smelt and lake trout during 1985-1987 showed no trend although the mirex concentrations fluctuated annually. All other contaminants in lake trout and smelt continued to decline steadily or were stable. Levels of pesticides and PCBs in herring gull eggs declined considerably between 1981-86.

Harbour sediments in many areas are toxic to mayfly larvae. Snapping Turtles in Hamilton Harbour are more contaminated with organochlorine compounds than turtles from other bodies of water in the province and hatching deaths are greater for turtles in the Harbour.

Drinking Water

Hamilton's water treatment plant supplies drinking water that passes all of the Province's health-related guidelines. Toxic contaminants have not been detected in the Region's raw water supply at levels higher than permitted under existing water quality objectives, and usually are not even present at levels that are detectable. In general, compounds found at low levels in raw water samples taken from Lake Ontario have not been found in treated water. Chlorination to kill bacteria creates volatile compounds such as Trihalomethanes (THMs) but while these chemicals have been found in treated and distributed water drinking water objectives have not been exceeded. These objectives are under review.

Many rural residents depend on groundwater sources for their well-water. Data from elsewhere in Southern Ontario suggest that direct spills and equipment washing practices may lead to more well contamination from pesticids than groundwater percolation.Quality tests in selected rural areas suggest bacterial contamination and high nitrate levels are associated with inadequate septic system treatment, agricultural fertilizers and substandard well maintenance. Some rural areas have experienced severe seasonal contamination problems though there does not appear to have been any widespread problems due to contamination of the aquifer. The area-wide capacity of hydrogeological processes in rural areas to accept contaminants and still provide clean water is poorly understood.

LAND ISSUES

Natural Areas Protection

Flora and Fauna: 15 mammal, 59 breeding bird, and 22 reptile and amphibian species found in the Region have been rated as nationally, provincially and regionally rare. Hamilton-Wentworth lacks a comprehensive inventory of flora and fauna. A Natural Areas Inventory project is being organized to collect data on the flora and fauna in natural areas within the Region.

Environmentally Sensitive Areas: Absolute objectives for the protection of land based wildlife habitat in Hamilton-Wentworth do not exist. Development restrictions vary and overlap according to designations by various agencies. Regionally designated Environmentally Sensitive Areas (ESAs) comprise some 29,676 acres or approximately 10 percent of the Region's land area. They overlap substantially with, Niagara Escarpment development control areas, Areas of Natural and Scientific Interest (ANSIs), and Class 1-3 Wetlands. Most of these areas are concentrated along the escarpment, in or near the Dundas Valley and the central-western portion of Flamborough.

Natural areas can be threatened by development but due to a lack of information about the areas the success of Regional ESA policies is hard to judge. ESA designation in the Official Plans does not prohibit development in the areas. Fifty-nine development proposals were subjected to ESA Policy requirements in the period 1981-1991. Forty-nine received a waiver from the requirement to submit an Environmental Impact Statement. Thirty-five of the fifty-nine proposals were in the Dundas Valley.

The Conservation Authorities are the agencies with a primary role in natural area land acquisitions. The Hamilton Region Conservation Authority owns approximately 4,900 acres in the Region. The Royal Botanical Gardens owns about 2,000 acres. The Natural Heritage Stewardship Program has contacted 180 landowners in Carolinian Canada sites within the Region. One hundred private stewardship agreements were reached covering some 1,540 acres of land.

Wetlands: The Province has classified the remaining 1/4 of the original wetlands in Southern Ontario and issued a Draft Wetlands Policy Statement intended to ensure that municipalities protect Classes 1-3 from incompatible development. There are 11 Class 1-3 Wetlands in Hamilton-Wentworth. Dundas and Flamborough, still retain a sizeable area of wetland including the large Beverly Swamp in Flamborough. The pace of destruction of Hamilton-Wentworth's wetlands has slowed compared to previous decades when wide spread drainage took place. Between 1965 and 1982 a net loss of 50 acres was recorded as many acres of marginal farmland were returned to wetlands.

Forests: Estimates of the area of forested land in the Region range from 22,000 to 35,000 acres depending on the way treed land is classified. Heavily forested land is found in Flamborough but also in Dundas and Ancaster. These forested areas are being diminished. According to assessment records, between 1982 and 1987, the Region experienced a 1,740 acre reduction in the area of forested land. The drop from 35,855 acres in 1982 to 34,144 acres in 1987 represented a 4.85 percent reduction of the 1982 acreage. The number of plantings under the Ministry of Natural Resources, Woodlands Improvement Act has been relatively strong in recent years. In 1990 109,100 new trees were planted,(at about 1,000 trees/acre) while in 1989 and 1988 the number of new trees planted was 57,900 and 65,400, respectively.

Farmland Preservation / Urbanization

Compared to its large size Canada has only a small area of land capable of growing crops. Urbanization of high quality farmland is a problem nation-wide. In the 25 years between 1966 and 1981 a quarter of a million hectares of rural land across Canada was converted to urban use. Of this 57 percent was "prime" agricultural land. Only 5 percent of Canada's land is in the top 3 Classes and only 5 percent is Class 1. Half of this Class 1 land is in Southern Ontario. In 1974, 70 percent of the categorized acreage in Hamilton-Wentworth was in Classes 1-3; i.e. 200,000 acres.

Farm numbers (not farm size), farm population and the area of land under cultivation has fallen nationally. Hamilton-Wentworth outstripped the national trends in the speed of the decline in farming activity. Between 1981 and 1986; the number of census farms in the Region declined ten percent, from 1553 to 1393, the area of census farms declined eight percent, from 158,519 acres to 145,083, rural farm population declined fourteen percent from 4,940 people to 4,235, even while overall rural population grew at rate of close to four percent. Nevertheless, agriculture is still the largest land use in the Region. In 1987 144,000 acres were farmed. The economic spin-offs of the sector are substantial.

The average rate of conversion of rural to urban use in Canada for urban areas with a population similar to the Region was **193 acres per 1,000 population increase** (1981-1986). The Region's estimated conversion rate between 1982 and 1987 was **360 acres per 1,000 increase in population.** Smaller municipalities convert more land when population increases than larger cities and the Region's largest percentage population increase has occurred in Ancaster, Flamborough and Stoney Creek.

Farm Practices: Soil compaction, soil erosion, salinization, and run-off of pesticide residues or fertilizer can all be caused by poor farm practices. Though there are few studies on the extent of the problem specific to the Region, pesticides and fertilizers that are carried into watercourses can have significant effects on water quality. The contribution of contaminants from rural land run-off to the total contaminant burden of the Great Lakes is not known. Available data indicate the loadings may be sizeable but loadings for particular watersheds are not available. Sediment problems in the Harbour watershed are related also to construction practices while high nitrate and fecal choloform levels in creeks and streams can also be associated with storm drainage and sewer overflows.

Watercourses in the Region are not systematically tested for pesticide or residual compounds. The one testing station, on an Ancaster creek, which is part of the province-wide pesticide residues testing program has not registered levels of pesticides in the water that are of concern to the Ministry of Environment. Figures from 1988 indicate that the volume of herbicides and insecticides applied to farm fields has dropped considerably from 1983.

Information on the volume of pesticides used in urban areas or by home owners in Hamilton-Wentworth is unavailable. It was estimated that in 1986, some 43% of Ontario home owners used up to 100,000 kilograms of the total 532,000 kilos of 2,4-D sold. Approximately 443,820 containers of domestic use herbicides, 567,853 packages of impregnated fertilizers, and 40,000 weed bars were sold in the Ontario home and garden market.

Waste

The Region's Glanbrook landfill site should be able to accommodate the Region's solid waste for at least two decades. The quantity of garbage going into the Glanbrook site reached a peak of 282,046 tonnes in 1986 during a period when the incinerator (SWARU) was undergoing modifications. Since 1986 the total volume steadily declined, with the Regional landfill receiving 249,448 tonnes in 1987, 235,298 tonnes in 1988 and 228,688 tonnes in 1989. Standard residential, commercial and industrial wastes declined in weight of deliveries from 273,829 tonnes in 1986 to 197,818 tonnes in 1989. Undoubtedly this is due in large part to the sizeable quantities of waste being recycled. In 1989, the amount of solid waste picked up from residential areas in Hamilton-Wentworth weighed 139,883 tonnes, an amount equivalent to 0.9 kilograms per person per day for each person in the Region or approximately 2.24 kilograms per household.

Approximately 60 percent of municipal solid wastes are received at the Solid Waste Reduction Unit and are incinerated. In 1982 a turbine generator was installed to produce electrical energy. In 1989, 93,707 tonnes of solid waste was processed through SWARU. In the same year 26,901 tonnes of incinerator ash being disposed of at the Regional landfill site in Glanbrook.

Recycling: Regional recycling efforts target a 25 percent reduction of waste by 1992 and a 50 percent reduction of waste by 2000. In 1989, 14,987 tonnes of newspaper, glass containers, aluminum and steel cans, and PET plastic soft drink containers were collected from approximately 110,000 households across the Region. Curbside recycling has progressed from bi-weekly collection of newspaper, to Blue Box programs in all six area municipalities.

Hazardous Materials/Leachate: During 1989 Hamilton-Wentworth residents filled 257 forty-five-gallon drums with hazardous wastes ranging from paints to arsenic. The wastes collected as part of the hazardous waste collection program also included 435 car batteries and 237 propane cylinders.

Leachate monitoring at the Glanbrook Landfill site has found no existing problems with migrating leachate. The Region is also monitoring and collecting leachate from the former Upper Ottawa Street landfill site. A monitoring program of ten closed sites was initiated to warn of the emission of excessive gases or leachate. Not all the dump sites were tested and monitored regularly to ensure that contaminants were not moving through the soil or were contained. The monitoring and containment program of the Region and Ministry of Environment is currently being re-evaluated. A number of other old landfills exist which were closed before the Region was formed. Little information on these sites is available, nor is there an inventory of potentially contaminated industrial or utility sites.

This is one in a series of Fact Sheets produced by the Regional Planning Branch of the Planning and Development Department, for the Regional Chairman's Task Force on Sustainable Development, Regional Municipality of Hamilton-Wentworth.

Other Fact Sheets available:

Social Statistics
Transportation and Land Use
Demographic Trends
Hamilton-Wentworth's Economy

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Task Force on Sustainable Development

economic, social and environmental planning for the future

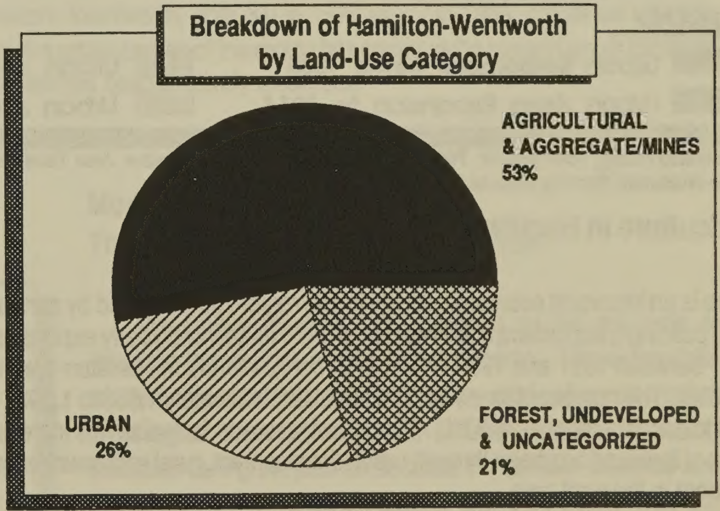
LAND-USE AND TRANSPORTATION

Introduction

Issues related to land-use and transportation play a central role in planning for a sustainable future. Land, like any other commodity, is a scarce resource, and should be allocated so that it produces the highest possible return to society. In the past, the most common criteria used to evaluate the best and highest use of land has been real estate market indicators, but in recent decades an increasing awareness has evolved that decisions governing the use of land should include evaluations of land-use impacts on society, the environment, and the utilization of energy for transportation. Transportation, in turn, is an important subject because of the important and far reaching linkages between transportation and the utilization of land, particularly in the area of density planning and planning for employment/housing relationships.

Hamilton-Wentworth: A City Surrounded by Farmland

Over a quarter of the Region's land is now occupied by homes, industrial enterprises, commercial strips, apartment buildings, recreational parks, and other urban land-uses. Another half of Hamilton-Wentworth's land is now used for active agriculture, leaving less than a quarter of the area of the Region for natural areas such as forests or wetlands. The better part of the City of Hamilton and the Town of Dundas is now largely urbanized, and the Town of Ancaster and the City of Stoney Creek are rapidly being developed. Most of the Region's natural features are now found outside of the urban boundaries, in the outlying municipalities of Flamborough, Ancaster, Stoney Creek and Glanbrook, where most of the land still has not been developed for urban land-uses.

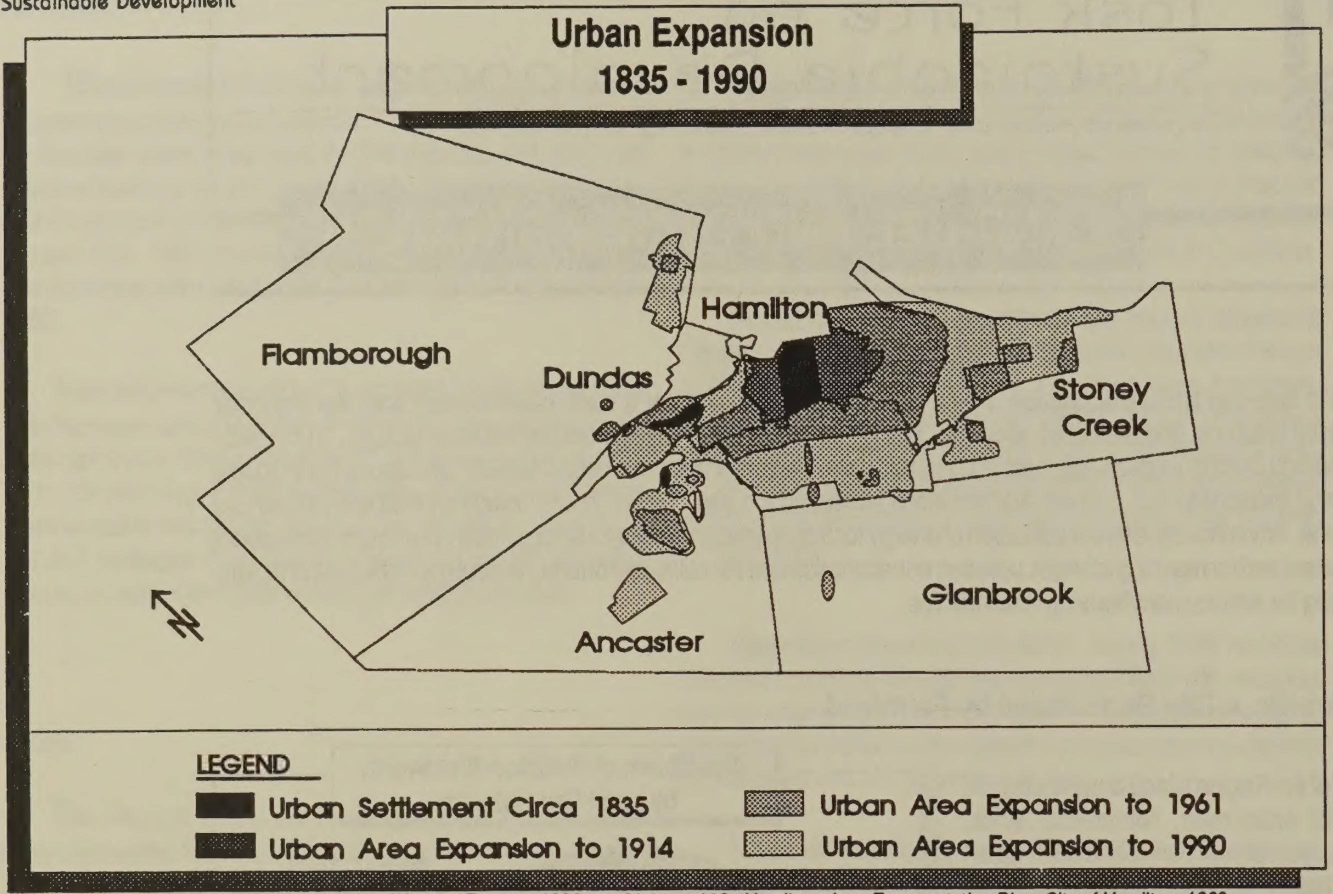


Breakdown of Hamilton-Wentworth by Land-Use Category

Source: Land-Use Characteristics, Hamilton-Wentworth Plannining and Development Department and Assessment Records 1987

Hamilton-Wentworth: A Growing Urban Entity

Although Hamilton-Wentworth has not grown at the same rapid pace as the municipalities to the north in the Greater Toronto Area, the region has nonetheless continued to expand physically and geographically at a steady pace since the turn of the century. As illustrated in the following map, Hamilton-Wentworth's urbanized area has expanded during the last one and a half centuries from a series of small towns in Hamilton, Ancaster and Dundas into a continuous urban entity that stretches from Stoney Creek in the east to Hamilton above the escarpment in the south to Ancaster in the south-west. Virtually all of Hamilton has been developed and serviced with water, sewers and access roads, leaving only small pockets of undeveloped land in the southern periphery. Ancaster, Flamborough and Stoney Creek saw rapid development in the 1970s and 1980s, and municipal infrastructure will allow further development in these municipalities in the 1990s. Plans for Ancaster show a possible doubling of the population there within 20 years as a result of the huge Meadowlands project. Stoney Creek's plans also indicate a rapid urbanization of that city's remaining undeveloped lands, particularly below the escarpment, while a proposed expansion of Waterdown will substantially increase the size of Flamborough's urban area.


Urban Expansion
1835 - 1990
Flamborough
Dundas
Hamilton
Stoney Creek
Ancaster
Glanbrook
LEGEND
Urban Settlement Circa 1835
Urban Area Expansion to 1914
Urban Area Expansion to 1961
Urban Area Expansion to 1990

Source: Hamilton; An Illustrated History, John Weaver, Toronto, 1982, pg. 21 & pg. 102, Hamilton Area Transportation Plan, City of Hamilton, 1963, Land-Use maps, Hamilton-Wentworth Planning Department, 1990.

Changes in Agriculture in Hamilton-Wentworth

Agriculture is an important economic activity in the region, as illustrated by annual farm cash receipts of $113.8 million, capital value of land, buildings, equipment and livestock of $476 million and yearly expenditures totalling $94 million. Agriculture is changing, however. Between 1981 and 1986, the area of census farms in Hamilton-Wentworth declined from 158,519 acres to 145,083 acres (-8.48%). The number of farms declined from approximately 1,553 to 1,393 (-10.3%), and the total farm population declined from 4,940 to 4,235 persons (-14.27%). In addition, average farm size has increased slightly from 96 ac. in 1976 to 104 ac. in 1986. The loss of farmland has been through urban development, rural settlement expansion, competing rural land uses and residential development in the rural area.

On the remaining farmland, there have been shifts in production with fluctuations in vegetable acreages from 10,000 ac. in 1981 to 5,600 in 1986 to 7,000 in 1989, and increases in soyabeans from 3,800 ac. in 1981 to 8,000 ac in 1989. However, other commodities have encountered drops in acreages. Grain corn from 31,000 ac (1981) to 24,000 ac (1989), oats from 6,800 (1986) to 3,800 (1989), fruit from 4,500 (1981) to 4,200 (1989), and dairy production has decreased from milk production totals of 30,000,000 kilolitres (1976) to 26,500,000 kilolitres (1986). Present agricultural production (cash receipts) is distributed among the various commodities as follows: floric/nursery account for 25%, poultry 21.8%, fruit and vegetables 17%, dairy 11.7% livestock 11% and other commodities 13.5%.

Changes in agriculture are not limited to acreages or production figures. The rural land ownership pattern is also undergoing change and in Hamilton-Wentworth 50% of the farmland is now rented by area farmers. With speculative and absentee landlords in control of much of the farmland there is increased pressure for land prices to rise, and short term lease arrangements can result in poor land management practices, and thus a general degradation of the agricultural land base. Increased land costs, cheap food policies (Cost of Food related to Disposable Incomes -Canada 15%, Ireland 27%, U.K. 20%, Sweden 21%), and low return for the farmer (eg. out of the $1.29 consumer price for canned apple juice only .21¢ (16%) is paid to the farmer) are forcing a number of area farmers to seek part time work or to get out of farming altogether. The result in Hamilton-Wentworth and southern Ontario is a changing rural land use and ownership pattern, a marked decline in agricultural population and to a certain extent production; and an overall increase in rural population from 36,110 in 1981 to 37,500 in 1986 (+3.85%).

Smaller Households; Larger Homes

As incomes have risen during the 20th Century, increasingly affluent residents have tended to demand larger homes. This trend has been partially due to the desire by many to own a suburban house, a dream that has become part of the North American idealized lifestyle. During the post-war baby boom era the image of a desirable family unit came to consist of a husband, wife and children residing in a suburban detached house. Although household composition changed dramatically during the 1970s and 1980s for a variety of reasons, and households declined as a result, the perception of a desirable residence continues to be a large single-detached home in the suburbs.

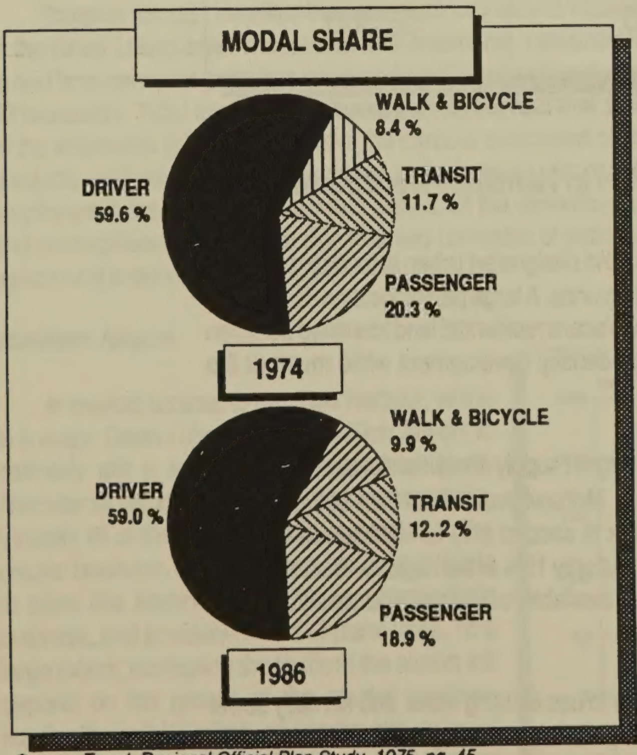
	Single Detached Homes by Date of Construction		
Size in Sq.Ft.	**1900-45**	**1961-70**	**1986-88**
< 1000	27.2 %	3.1 %	0.2 %
1000-1299	33 %	51 %	9.9 %
1300-1599	20.6 %	18.3 %	9.3 %
1600-1999	11.6 %	12.2 %	21.7 %
2000-2999	6 %	14.1 %	51.7 %
3000 +	1.1 %	1.2 %	7 %
Total	100 %	100 %	100 %

Source: Regional Building Profile; Standard Reports, Planning and Development Department. Sept., 1990

The decline of the average household size in Hamilton- Wentworth, from 3.0 in 1976 to 2.7 in 1986[1], combined with the propensity of residents to buy larger houses, has meant that the urban portion of the region has continued to expand geographically in the 1960s, 1970s and 1980s even though population growth has been relatively moderate.

Modes of Transportation: The Ascendence of the Automobile

Population densities have declined as the residents of Hamilton-Wentworth moved to the suburbs. The automobile is now firmly established as the primary mode of transportation in the region. As in the rest of North America, public transportation utilization during the past six decades in Hamilton declined and then stagnated (on a percentage of total trips basis) while the number of cars increased dramatically. In 1930 there were 8 residents per automobile in the City of Hamilton and in 1950 there were 5 residents per automobile. By 1968, car ownership had soared to the point where there were only 3.1 residents per automobile in the City of Hamilton. More recent data shows that this trend has continued into the 1980s. The Transportation Tomorrow Survey revealed that the number of cars available to, or owned by, a household increased from an average of 1.1 in 1980 to an average of 1.4 in 1986. As the table shows, the dominance of the automobile as the primary form of transportation in Hamilton-Wentworth established in the 1960s and early 1970s has not been significantly eroded in the intervening period.



Source: Trend; Regional Official Plan Study, 1975, pg. 45
Transportation Tomorrow Survey, 1988

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[1] *Population Projections 1988 - 2006, Hamilton-Wentworth Planning Department , 1989*

Changing Commuting Patterns, Growing Traffic

Hamilton-Wentworth remains a place in which the vast majority of its residents are still employed within its boundaries, with 84 percent of the residents travelling to work destinations in the region. However, as the Toronto metropolis has grown in terms of population and economic importance, and has physically expanded westwards into the Peel and Halton regions, an increasing number of residents of Hamilton-Wentworth have begun to commute into the Greater Toronto Area. At the same time, Hamilton-Wentworth has seen a slight decline in the number of commuters who travel to the region for employment purposes, with the result that Hamilton-Wentworth is very slowly changing from a net importer of commuters to a net exporter of commuters. Between 1981 and 1986 Census Data shows that the number of commuters travelling from outside of the region to employment sites within Hamilton-Wentworth declined only slightly from 30,100 to 30,000. However, the number of Hamilton-Wentworth residents who travelled to employment sites outside of the region increased from 23,100 in 1981 to a significantly higher 31,900 in 1986. As the following table indicates, the continued reliance on the automobile as the primary means of transport has combined with lower urban densities, increasing work-commuting distances, and a growing reliance on trucks for distribution purposes, to cause much higher levels of traffic on the region's major arteries.

	Average Annual Daily Traffic Count	
Major Route	**1976**	**1988**
Highway 2/53 Ancaster-Brant	11,400	25,950
QEW Stoney Creek-Niagara	37,600	56,300
QEW Hamilton-Burlington	56,000	75,000
Highway 403 Dundas-Burlington	47,500	68,300

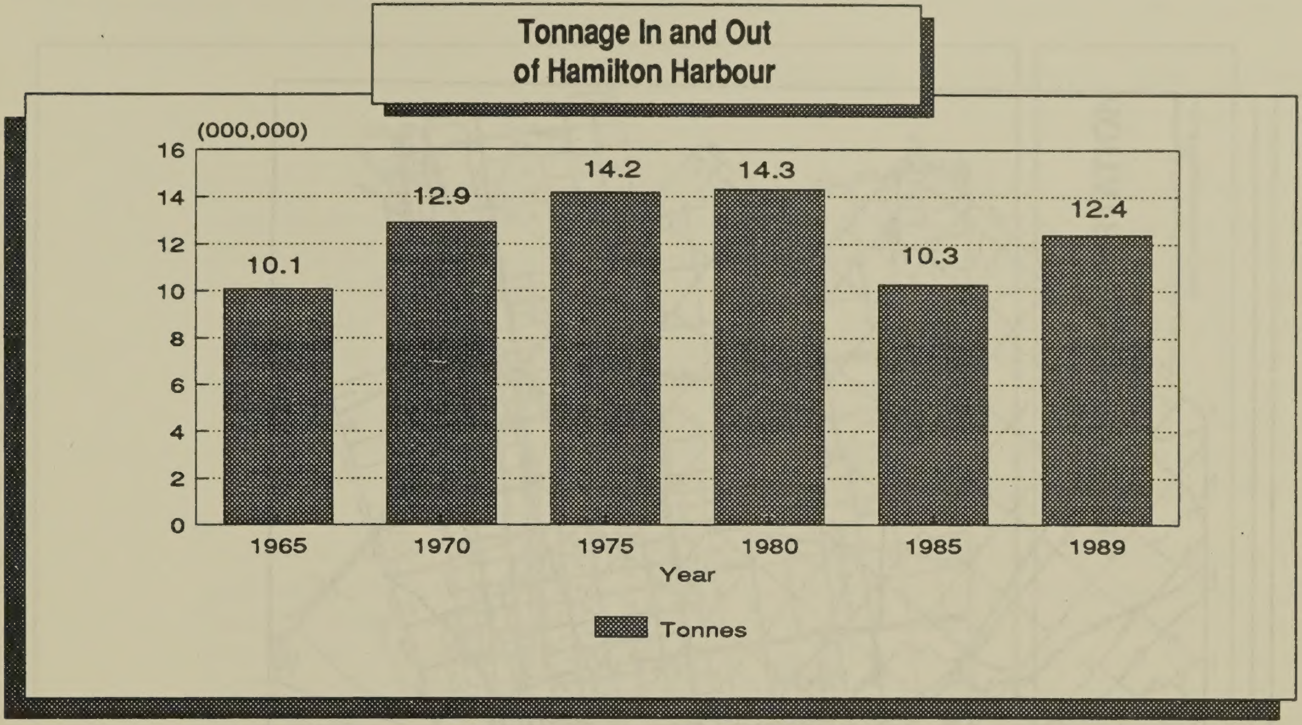
Source: 1976 Traffic Volumes, MTC ISSN 0701 50 Reference CA2 ONDT75 P63A 1976, 1988 Traffic Volumes, MTC ISSN 0701 50 Reference CA2 ONDT75 P63A 1988.

Current Plans for Accomodating Residential Development Expansion in Hamilton-Wentworth

As of January 1, 1990, the Regional Municipality of Hamilton-Wentworth had within the designated urban area approximately 1,950 hectares (4,880 acres) of vacant land with a development potential of 46,860 dwelling units. A large part of the land designated for residential development is found above the escarpment, south of the built urban area. Vacant residential land identified between the QEW and Lake Ontario, and in the built-up areas, are mostly designated for high-density development while much of the undeveloped area in the south is designated for low-density housing.

According to current Regional and Area Municipality official plan designations, the largest supply of residential land (36%) and potential residential units (38%) is located in the City of Hamilton, predominantly south of Mohawk road. With 25% of the region's residential land supply and 31% of the region's residential unit potential, Stoney Creek is second only to Hamilton in terms of development potential, while Ancaster has 18.5% of the region's residential land supply but only 15% of the region's residential unit potential,. Dundas, Flamborough and Glanbrook contain the remaining 20% of the region's available residential land supply and 16% of the estimated residential unit potential.

Approximately 51% of the region's residential land supply is identified as being able to use existing water and sanitary sewer trunk lines, while another 34% of the region's residential land supply can be classified as probably receiving water and sewer trunk lines in the next five years. Based on the 1988 Planning and Development Department population projections, the current urban areas as designated in the Hamilton-Wentworth Official Plan are capable of supporting projected increases in population and households to the year 2006 and probably beyond.



Source : Hamilton Harbour Commissioners

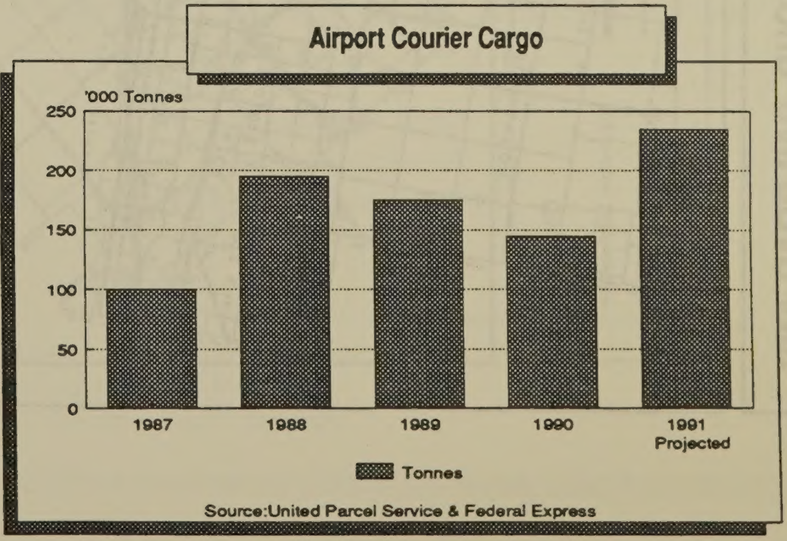
Harbour and Airport: Alernative Transportation Modes

Hamilton Harbour

Shipping through Hamilton Harbour continues to be a viable method of transportation, and the harbour remains the most active in the Great Lakes area. The level of total shipments remained relatively strong throughout the 1970s and 1980s and shipments to and from overseas ports has increased significantly since the early 1980s, reflecting a recovery of economic activity after the 81-82 recession. Total tonnage has fluctuated between 8.5 and 14.5 million tonnes a year between 1965 and 1989, with the majority of the shipments (89 %) in and out of the harbour comprised of iron ore, coal, iron, steel and metal products. Of the iron ore, metal products, and coal shipped or received in the harbour, almost all was destined to, or shipped out from, the two largest industrial employers in the region, Dofasco and Stelco. Of the remaining 11% of the shipments received at the Harbour, most of the goods and commodities embarked or disembarked consisted of petroleum products and other hydrocarbons, construction materials, and agricultural products such as grain.[2]

Hamilton Airport

In marked contrast to Hamilton Harbour, which is a major Great Lakes port, Hamilton Airport is definitely still a small regional airport by North American air cargo and passenger volume standards. Virtually all of the airport's traffic is related to the courier business, short-distance passenger flights to cities like Montreal and Ottawa, charter-flight business, and privately-owned airplane uses. To a large extent, increasing the traffic at the airport will depend on the growth of the courier business moving through Hamilton, and on the expansion of the facilities to accomodate larger-scale operations and long-distance flights.



Source:United Parcel Service & Federal Express

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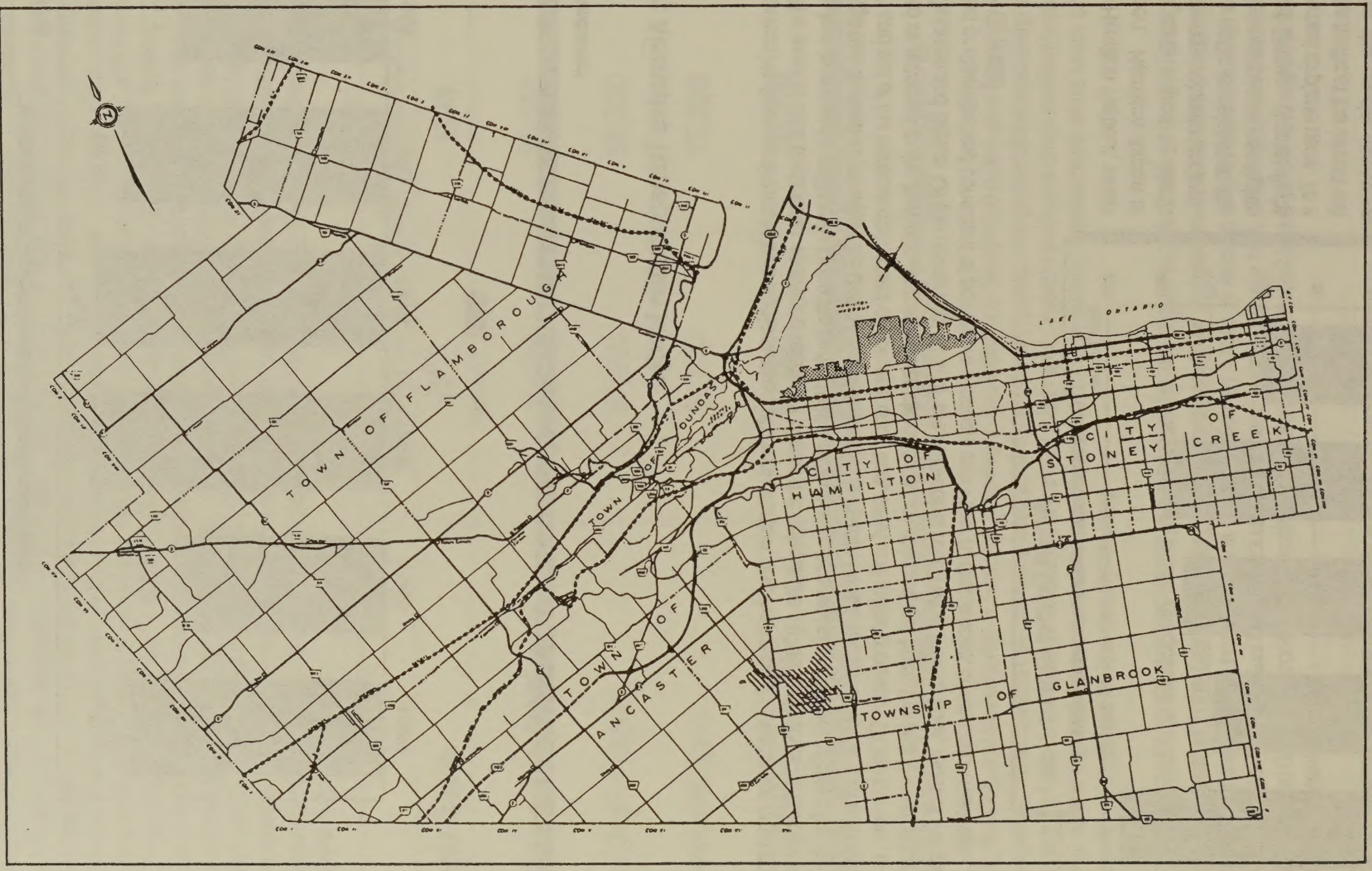
[2] *Source: Portfolio; Economic Impact Report, Hamilton Harbour Commissioner*

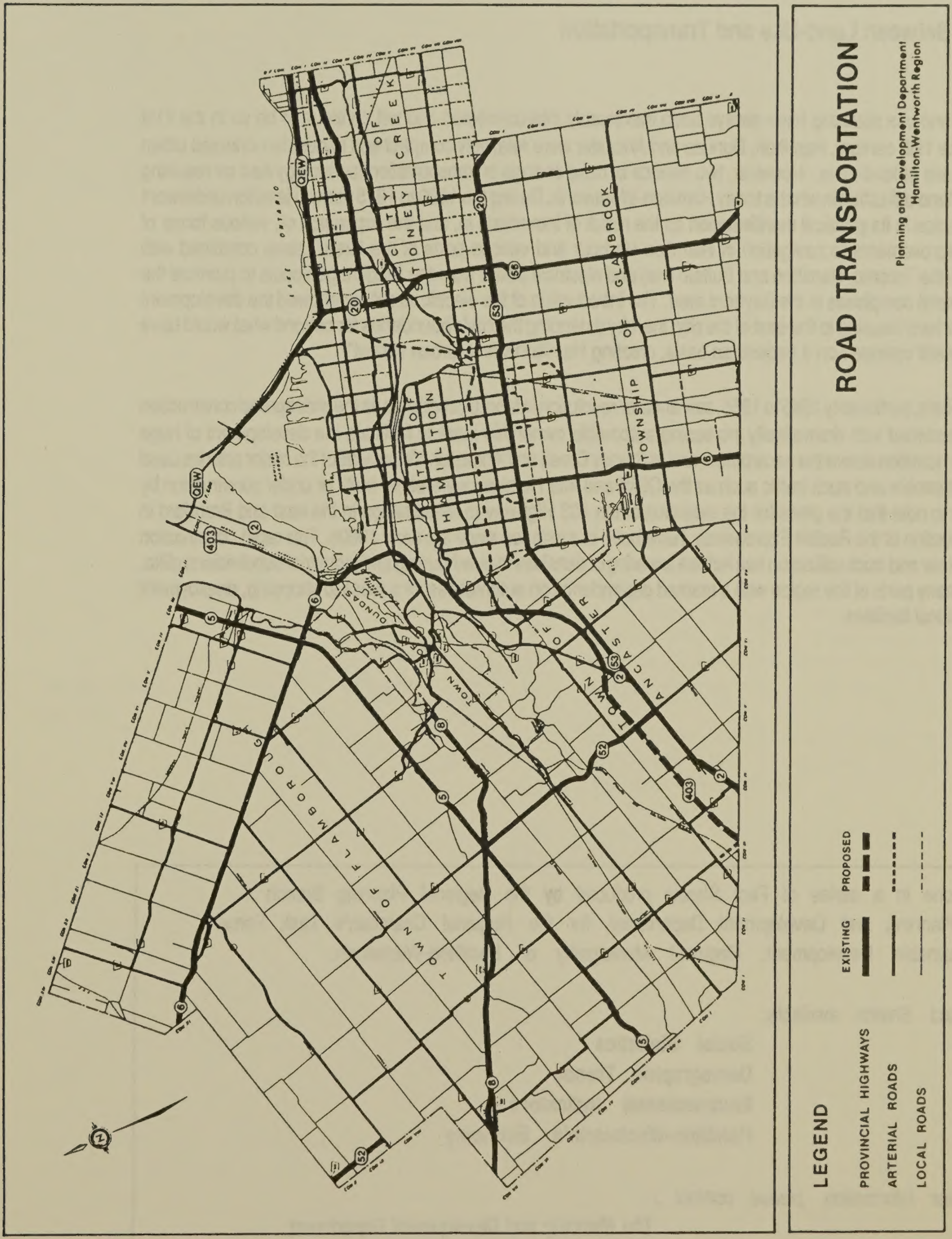

TOWN OF FLAMBOROUGH
TOWN OF ANCASTER
TOWN OF DUNDAS
CITY OF HAMILTON
CITY OF STONEY CREEK
TOWNSHIP OF GLANBROOK
LAKE ONTARIO
HAMILTON HARBOUR
N

LEGEND

- ▒ HARBOUR FACILITIES
- ▨ AIRPORT FACILITIES
- ······· RAILWAYS

HARBOUR, RAILROAD AND AIRPORT FACILITIES

Planning and Development Department
Hamilton-Wentworth Region


ROAD TRANSPORTATION
Planning and Development Department
Hamilton-Wentworth Region
LEGEND
EXISTING
PROPOSED
PROVINCIAL HIGHWAYS
ARTERIAL ROADS
LOCAL ROADS
CITY OF HAMILTON
CITY OF STONEY CREEK
TOWNSHIP OF GLANBROOK
TOWN OF ANCASTER
TOWN OF DUNDAS
TOWN OF FLAMBOROUGH
LAKE ONTARIO
QEW
403
20
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Historical Linkages Between Land-Use and Transportation

Transportation and land-use planning have always been inextricably interconnected and will continue to be so in the 21st century. For the most of the 19th century, Hamilton, Dundas and Ancaster were relatively compact and pedestrian-oriented urban settlements with a varied mix of land-uses. However, two periods of rapid change in transportation technology had far reaching effects on the evolution of land utilization in what is today Hamilton-Wentworth. During the 1890 to 1915 period Hamilton underwent a revolutionary transformation in its physical manifestation as the result of inovations in, and the expansion of, various forms of transportation. Artifical improvements to navigation in Hamilton Harbour and various parts of the Great Lakes combined with improved railroad access (the Toronto, Hamilton and Buffalo line) and electrical power from the Niagara peninsula to promote the development of vast industrial complexes in the Bayfront area. The introduction of the electric street car allowed the development of vast tracts of land for workers' housing to the east of the city, thereby extending the city's boundaries far beyond what would have been feasible had the city still operated on a pedestrian basis, creating Hamilton's first "urban sprawl".

The post World War II era, particularly 1945 to 1965, saw another revolution in land-use patterns as the widespread construction of roads and highways combined with dramatically increasing automobile ownership rates to facilitate the development of huge residential subdivisions in Hamilton above the escarpment and in Stoney Creek and Ancaster. Virtually all of the major arteries used in the region today for automoble and truck traffic such as the QEW and 403 Highway were either built or under construction by 1965, and it is interesting to note that the plans for the extention of the 403 Highway to Mississauga in the east and Brantford in the west and for the contruction of the Redhill Expressway, have been in existance since the early 1960s. This rapid construction of roadways and growth in car and truck utilization has led to a lowering of densities in new housing and industrial subdivisions alike, and has left residents of many parts of the region with a marked dependence on automobiles for access to shopping, employment opportunities and recreational facilities.

This is one in a series of Fact Sheets produced by the Regional Planning Branch of the Planning and Development Department, for the Regional Chairman's Task Force on Sustainable Development, Regional Municipality of Hamilton-Wentworth.

Other Fact Sheets available:

Social Statistics
Demographic Trends
Environmental Indicators
Hamilton-Wentworth's Economy

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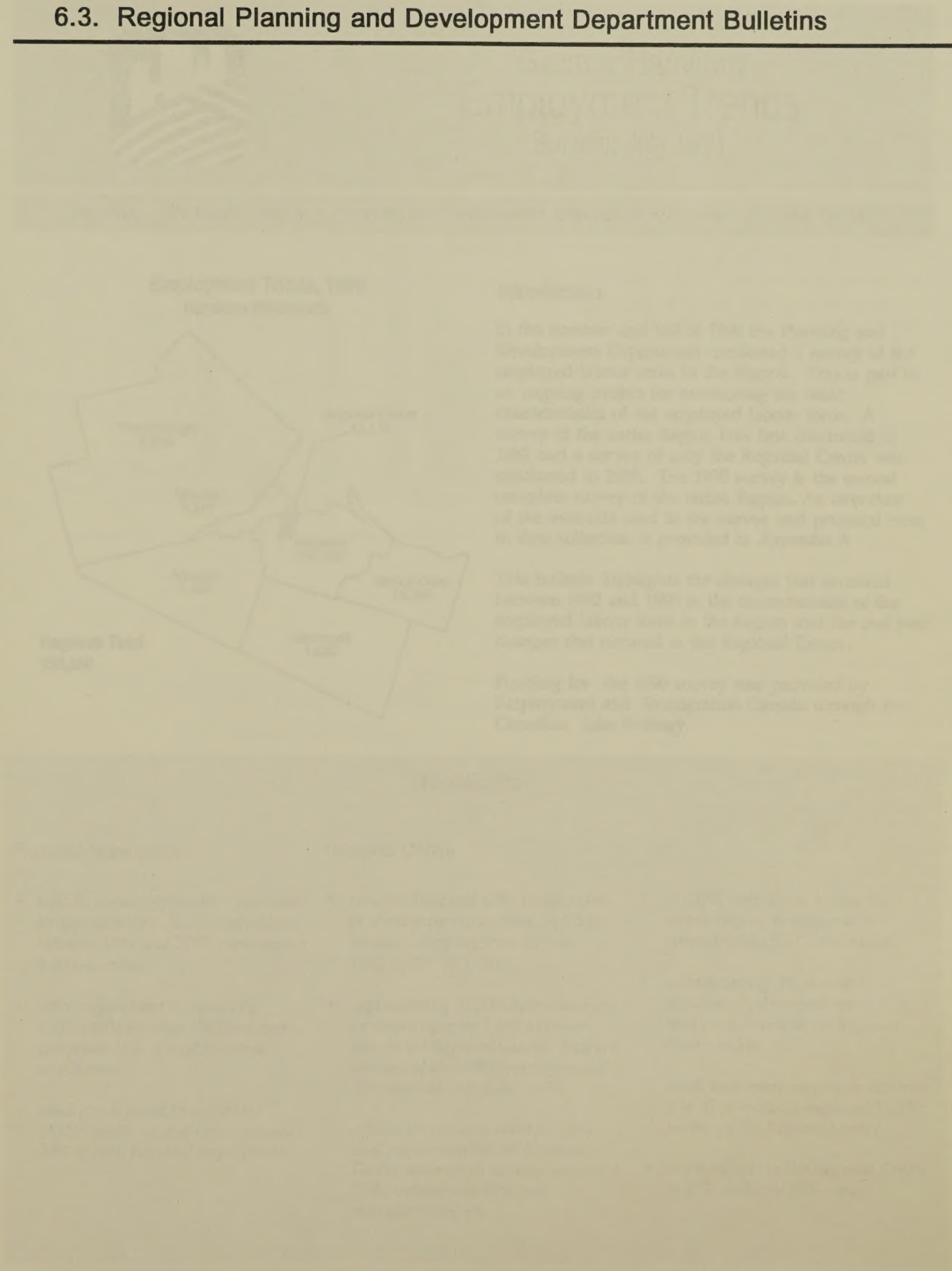
Hamilton, Ontario, L8N 3V9, (416) 546-2195, Fax: 546-4364

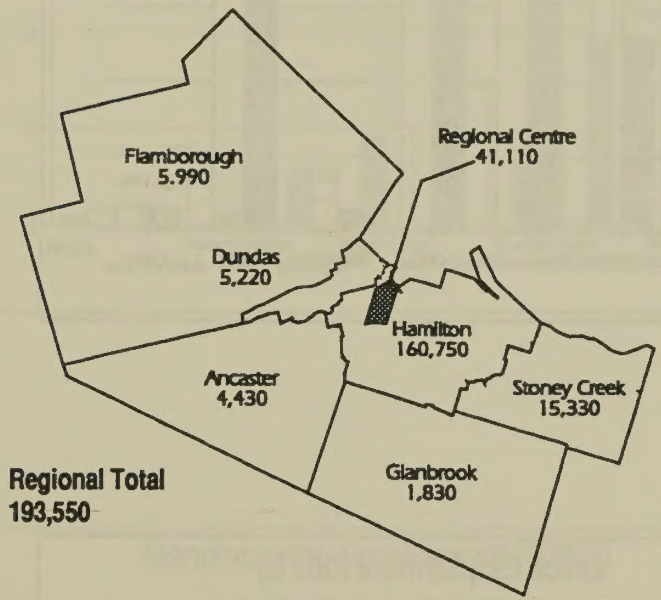
6.3. Regional Planning and Development Department Bulletins



Greater Hamilton
Employment Trends
Bulletin, July 1991

Hamilton - Wentworth Region • Planning and Development Department • Strategic Planning Division

Employment Totals, 1990
Hamilton-Wentworth



Introduction

In the summer and fall of 1990 the Planning and Development Department conducted a survey of the employed labour force in the Region. This is part of an ongoing project for monitoring the basic characteristics of the employed labour force. A survey of the entire Region was first conducted in 1982 and a survey of only the Regional Centre was conducted in 1989. The 1990 survey is the second complete survey of the entire Region. An overview of the methods used in the survey and potential error in data collection is provided in ***Appendix A***

This bulletin highlights the changes that occurred between 1982 and 1990 in the characteristics of the employed labour force in the Region and the one year changes that occured in the Regional Centre.

Funding for the 1990 survey was provided by Employment and Immigration Canada through the Canadian Jobs Strategy.

Highlights

Regional Municipality

- *total Regional employment increased by approximately 16,875 individuals between 1982 and 1990 representing a 10% increase.*
- *office employment increased by 9,215 positions since 1982 and now comprises 23% of total Regional employment.*
- *retail employment increased by 13,035 positions, and now represents 28% of total Regional employment.*

Regional Centre

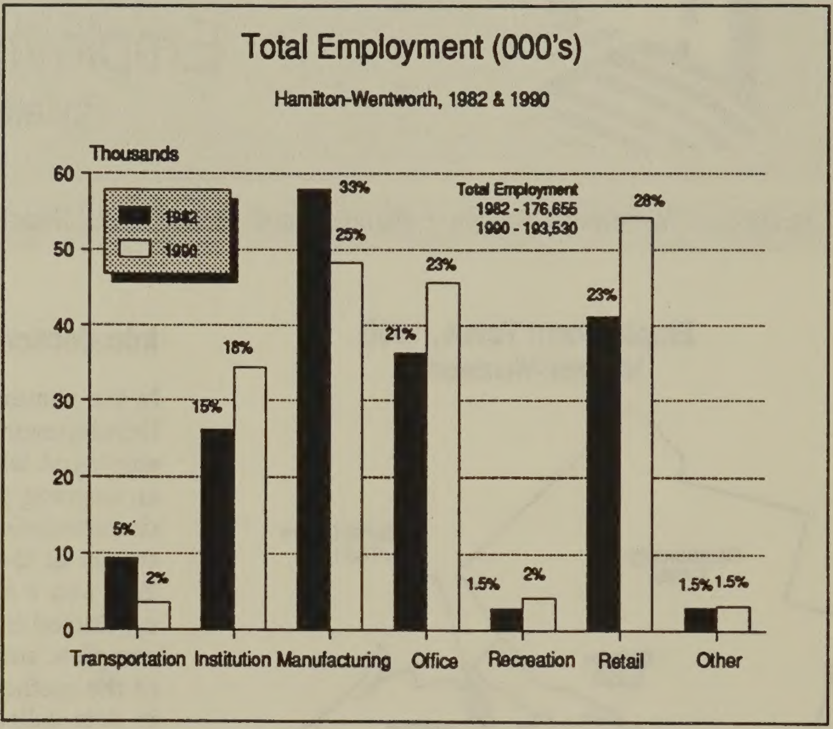
- *between 1982 and 1990 employment in manufacturing declined by 9,640 workers, dropping from 33% in 1982 to 25% in 1990.*
- *approximately 41,110 individuals are employed by some 2,460 business sites in the Regional Centre. This is a decrease of about 900 employees and 100 business sites from 1989.*
- *office activities accounted for 48% of total employment in the Regional Centre while retail activity comprised 20%, institutions 20% and manufacturing 5%.*
- *in 1990, institutions became the second largest employer with approximately 8,575 individuals.*
- *manufacturing employment significantly decreased from 8% of total employment in the Regional Centre to 5%.*
- *small businesses ranging in size from 1 to 20 individuals employed 11,410 people in the Regional Centre.*
- *the workforce in the Regional Centre is 41% male and 59% female.*

Regional Employment

Employment Characteristics of the Regional Municipality of Hamilton-Wentworth

Total employment in Hamilton-Wentworth increased by almost 16,880 workers from 176,655 in 1982 to 193,530 in 1990. In addition, almost 1,200 new business sites opened in the same eight year period. Reflecting national trends the largest increases in employment are in office and retail jobs while the number of manufacturting jobs are dropping.

All municipalities saw an increase in total employment between 1982 and 1990.



Total Employment (000's)

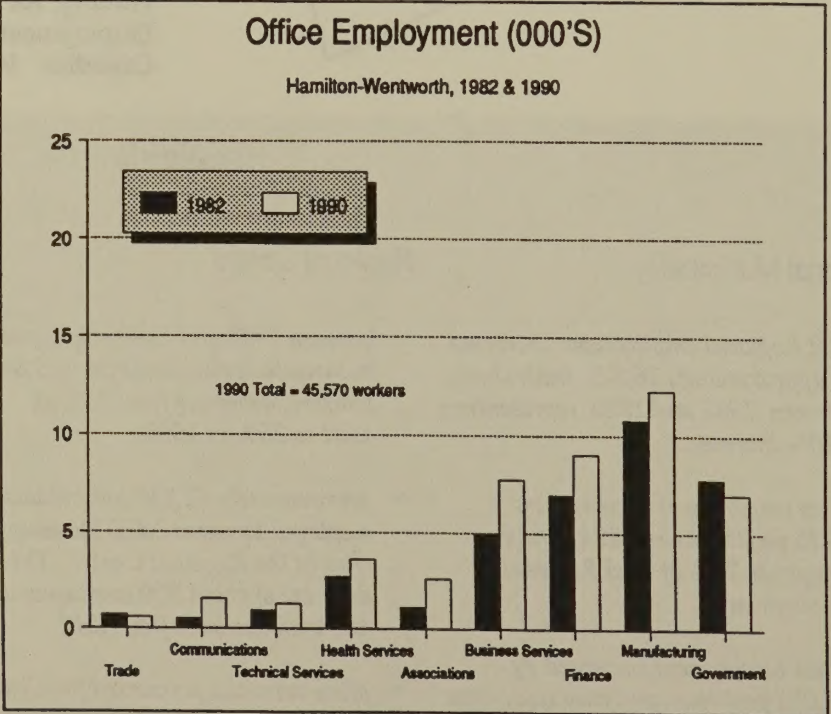
Hamilton-Wentworth, 1982 & 1990

Office Employment

Total office employment increased by 25% from 36,355 in 1982 to 45,570 in 1990. Office employment increased in every municipality and with the exception of Glanbrook the office sector constitutes 20% to 25% of each municipality's employment opportunities.

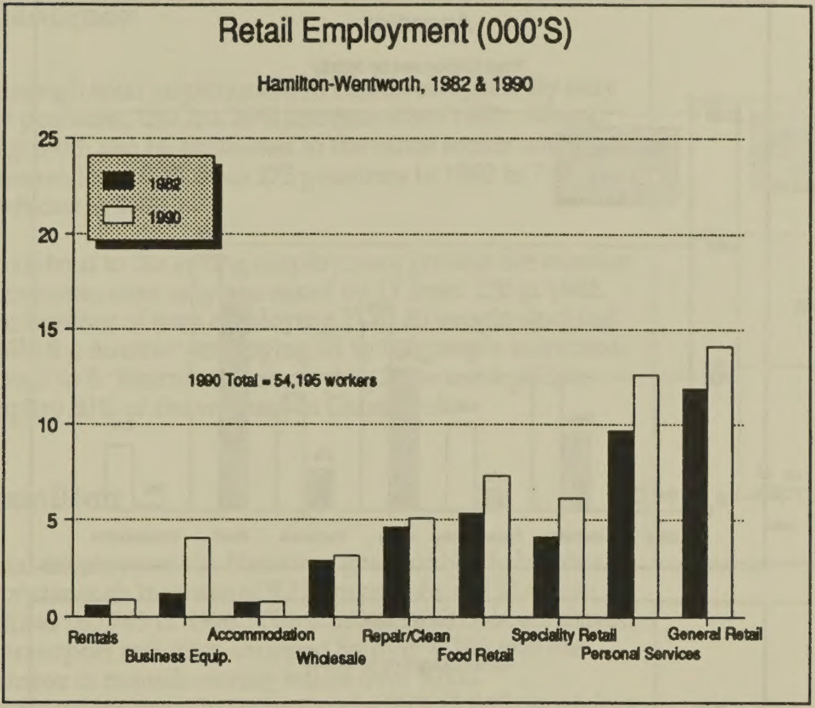
The largest growth in the office sector is occurring in associations (includes groups such as business associations, labour associations, and religious organizations). The number of office workers employed in this sector increased 130% to an estimated 2,575 people. With the exception of trade and government all sectors of office employment increased between 1982 and 1990. The decline in the number of government office workers is opposite to the increase experienced in the Regional Centre. Government offices would appear to be becoming more centralized in the Regional Centre.

Office employees working for manufacturing businesses are the largest proportion (27%) of the 45,570 office workers in the Region. Finance with 8,990 office workers and business services with 7,710 workers are the second (20%) and third (17%) largest office employment opportunities.



Office Employment (000'S)

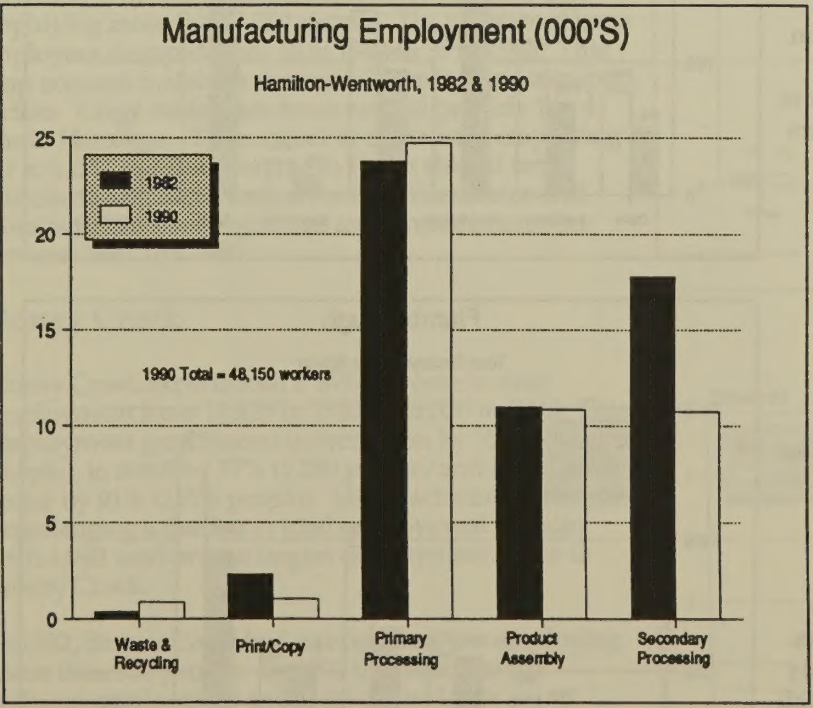
Hamilton-Wentworth, 1982 & 1990



Retail Employment

Retail accounts for 28% of total employment in Hamilton-Wentworth. Between 1982 and 1990 the number of people employed in retail increased by 32% from 41,155 people to 54,190 people. Retail is now the largest employment sector in the Region.

All sectors of retail increased between 1982 and 1990. The largest increase occured in business equipment which jumped 240% from 1,205 to 4,085 people. General retail and personal services however represent the largest proportion (26% and 23% respectively) of retail employment opportunities.



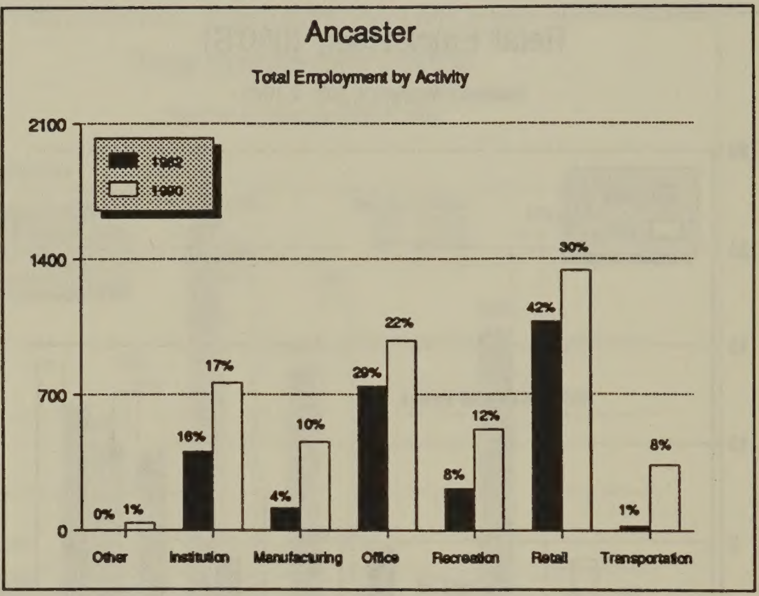
Manufacturing Employment

Reflecting national trends, total employment in manufacturing dropped from 55,215 workers in 1982 to 48,150 workers in 1990. Almost all of the decline in manufacturing employment occured in secondary processing which fell by 7,000 workers to 10,745. Primary processing remained stable at about 24,000 workers and now represents 50% of the people employed in manufacturing. In 1982, almost 1 in 3 workers in Hamilton-Wentworth were employed in manufacturing. Today that number is less than 1 in 4.

Ancaster

Ancaster's working population almost doubled between 1982 and 1990, increasing from 2,580 to 4,430 people, a 72% increase. The largest increase was in retail, increasing 1,300% and manufacturing which increased 300%.

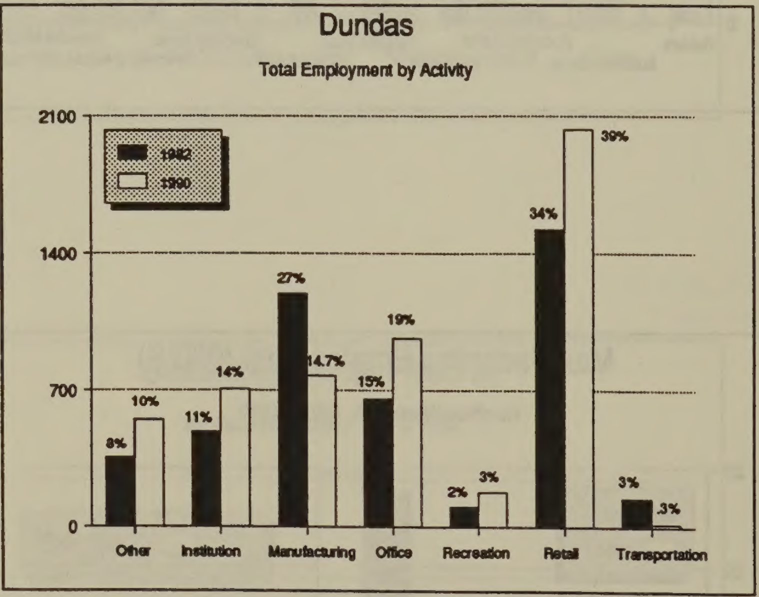
All business sizes except those employing 51 to 100 people increased in number. There are no business sites employing more than 500 people. Of the almost 380 business sites 89% employ only 1 to 20 people and employ a total of 1,800 people or 41% of the workers. Small businesses dominate the employment opportunities in Ancaster.


Ancaster
Total Employment by Activity

Dundas

Dundas experienced limited employment growth between 1982 and 1990. Total employment increased by 750 persons or 17% to 5,220 people. There was employment growth in institution, recreation and in particular retail employment opportunities while the manufacturing sector dropped from 1,200 to 775 workers.

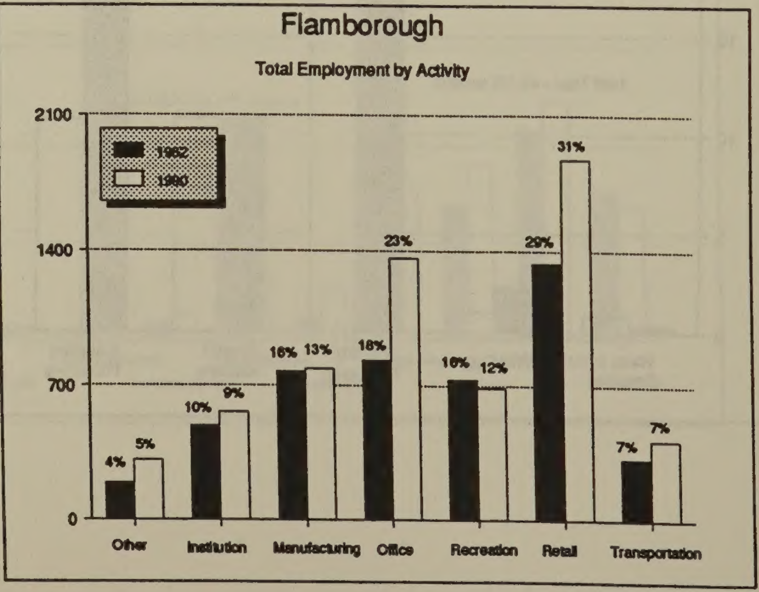
The total number of business sites increased from 435 in 1982 to 475 in 1990. Almost all growth occured in businesses employing 50 or less workers. The number of people employed by companies with 101 to 500 workers did increase by almost 50% from 810 to 1,210 people. This growth occured in the office and retail sectors.


Dundas
Total Employment by Activity

Flamborough

Total employment in Flamborough increased by 28% from 4,685 in 1982 to 5,990 in 1990. The majority of growth is occuring in the retail, transportation and office activities. The only sector to register a decline is recreation, with a drop of only 45 people.

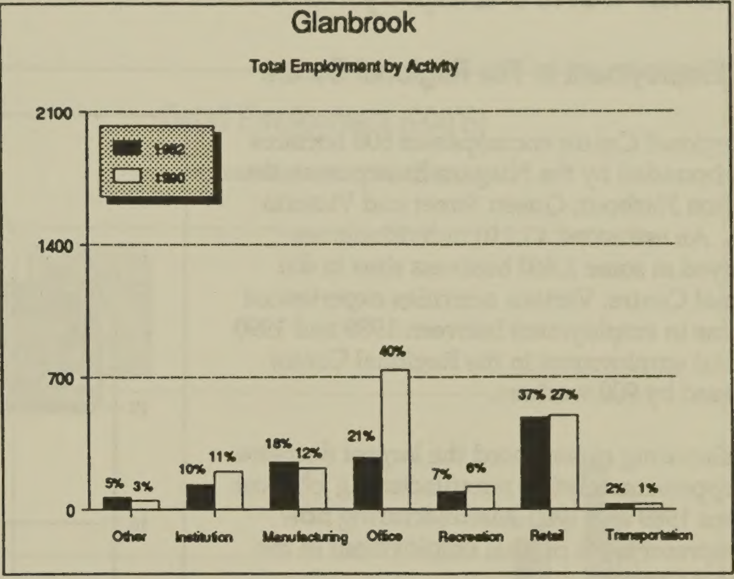
The number of business sites employing 101 to 500 people increased from 4 in 1982 to 11 in 1990 and now employ 1,770 people or 30% of Flamborough's workers. Small businesses employing 1 to 20 people increased by 9% to 565 sites and employ 44% of the workforce. Retail and office activities dominate representing 75% of the 620 surveyed businesses in 1990.


Flamborough
Total Employment by Activity

Glanbrook

Although total employment in Glanbrook grew by only 515 positions, this is a 39% increase since 1982. Almost all growth can be attributed to the office sector which increased by 167% from 275 positions in 1982 to 730 positions in 1990.

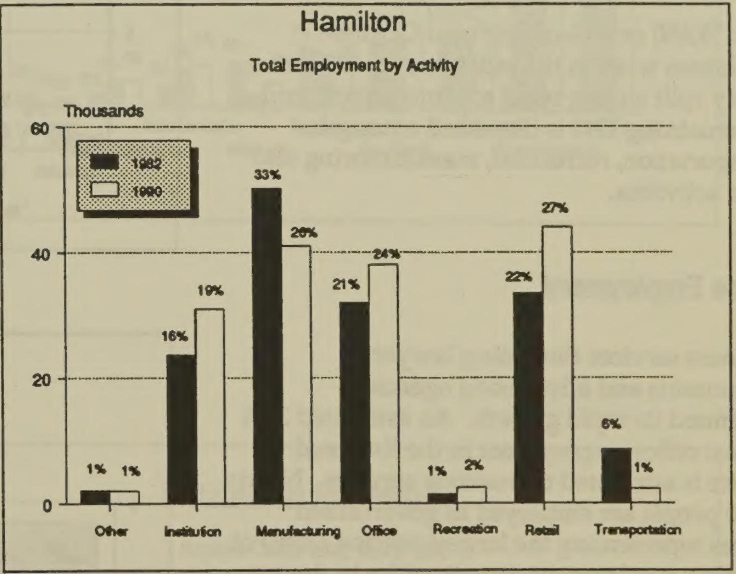
In contrast to the strong employment growth the number of business sites only increased by 17 from 220 in 1982. The number of sites employing 21 to 50 people doubled while the number employing 51 to 100 people increased from 2 to 5. Businesses employing 20 or more people employ 50% of the workers in Glanbrook.



Hamilton

Total employment in Hamilton grew only 6%, but this represents an increase of 9,270 people from 151,475 in 1982 to 160,745 in 1990. The number of people employed in transport activities dropped by over 6,200 and the number in manufacturing fell be over 9,000. Employment grew in recreation by 70% (1,040 people), in retail by 31% (10,440 people), in institutions by 31% (7,245 people) and in offices by 19% (5,965 people). In 1982, manufacturing was the largest employment sector employing 1 in 3 workers in Hamilton. In 1990, retail became the largest employment sector.

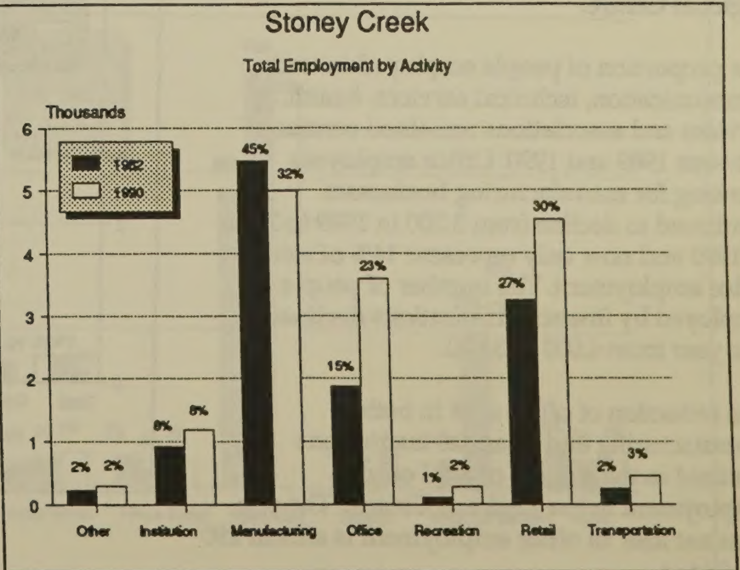
Hamilton is the only municipality with business sites employing more than 1,000 people. The number of large employers dropped from 18 in 1982 to 10 in 1990. This drop occured mainly in the manufacturing and transport sectors. Large businesses however still provide 1 in 4 jobs in Hamilton. The number of businesses employing 501 to 1,000 people remained at 17 but shifted from manufacturing and transport to the office sector. All other business sizes registered an increase in number between 1982 and 1990.



Stoney Creek

Stoney Creek experienced a 26% increase in total employment from 12,125 in 1982 to 15,330 in 1990. Total employment grew fastest in recreation by 151% (170 people), in retail by 77% (1,280 people) and in the office sector by 91% (2,700 people). Manufacturing although experiencing a decline in total employment remains with 4,990 workers the largest employment sector in Stoney Creek.

In 1982, Stoney Creek had one business site employing more than 500 people. By 1990 this business site reduced employment and there are no large employment sites in Stoney Creek. There was an increase of almost 230 business sites of which 80% are small businesses employing 1 to 20 people. There is currently a total of 1,160 business sites in Stoney Creek.



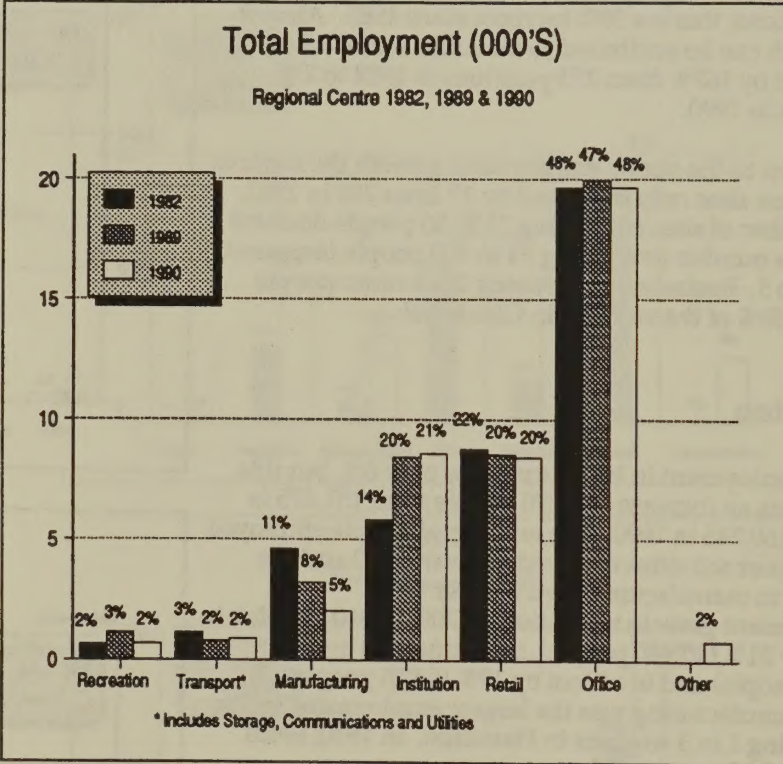
Regional Centre Employment

Total Employment In The Regional Centre

The Regional Centre encompasses 508 hectares and is bounded by the Niagara Escarpment, the Hamilton Harbour, Queen Street and Victoria Street. An estimated 41,110 individuals are employed at some 2,460 business sites in the Regional Centre. Various activities experienced a decline in employment between 1989 and 1990 and total employment in the Regional Centre decreased by 900 workers.

Manufacturing experienced the largest decrease with approximately 970 manufacturing jobs lost between 1989 and 1990. Manufacturing now only represents 5% of total employment in the Regional Centre.

Over 19,650 or 48% of Regional Centre employees work in the office sector; 40% are evenly split among retail and institution; and the remaining 12% is dispersed amongst transportation, recreation, manufacturing and other activities.


Total Employment (000'S)

Regional Centre 1982, 1989 & 1990

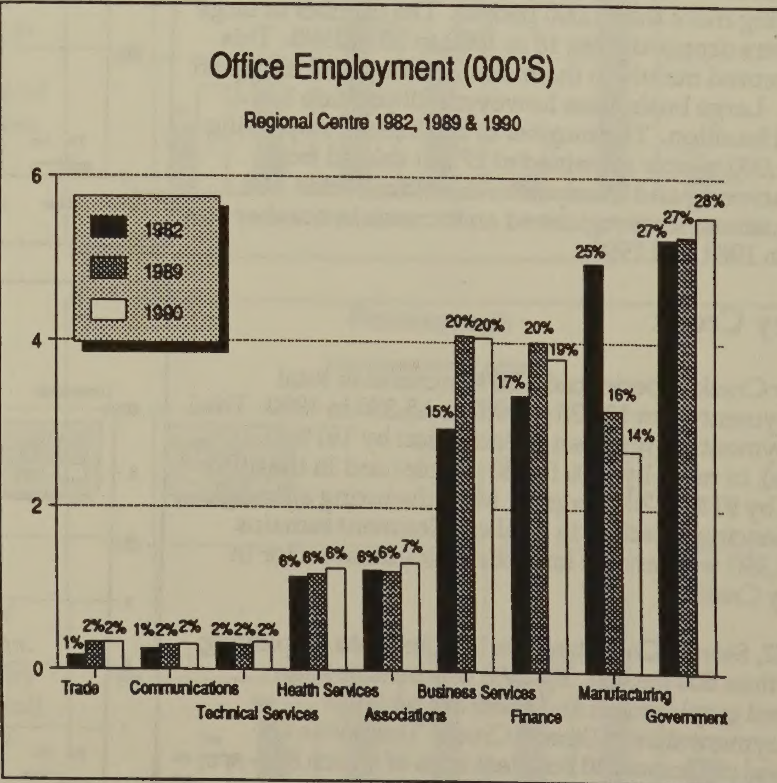
* Includes Storage, Communications and Utilities

Office Employment

Business services (including lawyers, accountants and advertising agencies) continued its rapid growth. An estimated 20% of total office employment in the Regional Centre is attributed to business services. Nearly 5,520 people are employed in government offices representing the largest portion (28%) of all office employment opportunities in the Regional Centre.

The proportion of people employed in trade, communication, technical services, health services and associations remained constant between 1989 and 1990. Office employees working for manufacturing businesses continued to decline from 3,200 in 1989 to 2,700 in 1990 and now only represent 14% of total office employment. The number of people employed by financial institutions declined in one year from 4,000 to 3,800.

The reduction of office staff in both manufacturing and financial institutions resulted in the decline of total office employment in the Regional Centre. The one year net loss in office employment is almost 290 positions.


Office Employment (000'S)

Regional Centre 1982, 1989 & 1990

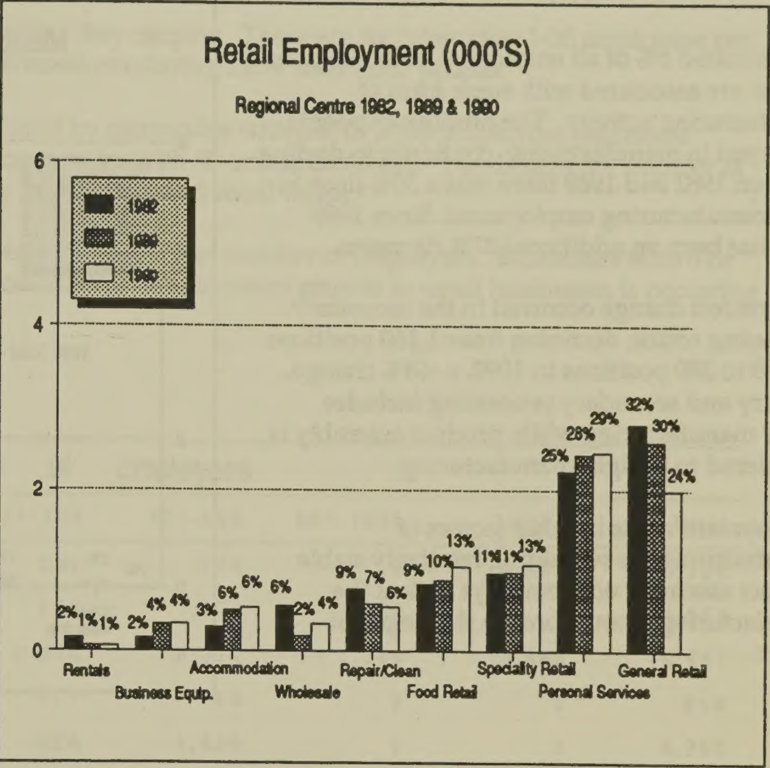
Retail Employment

There are several retail shopping districts in the Regional Centre including: Jackson Square, Hess Village, Downtown Promenade, International Village and Jamesville.

Retail accounts for 20% of total employment in the Regional Centre. The number of people employed in retail however, continues to decline due to a large loss in general retail. This retail sector decreased by 600 positions from an estimated 2,590 in 1989 to 1,990 positions in 1990.

Speciality retail increased by only 95 positions. This was not sufficient to overcome the negative effect originating from general retailing. Therefore, the shift from general to speciality retailing revealed in the period from 1982 to 1989 is not seen in 1989 to 1990. In 1989, both speciality and general retailing comprised 41% of all retail employment. This declined to 37% in 1990 with speciality retail employing over 1,070 people and general retailing employing almost 1,990 people.

The number of workers employed in food retail increased by 170 between 1989 and 1990. Rental and repair/cleaning service activities experienced a negative change in 1990. Wholesale employment, which showed a significant decline between 1982 and 1989 revealed a recovery in 1990, by increasing employment from 190 to 340 individuals.



Retail Employment (000'S)

Regional Centre 1982, 1989 & 1990

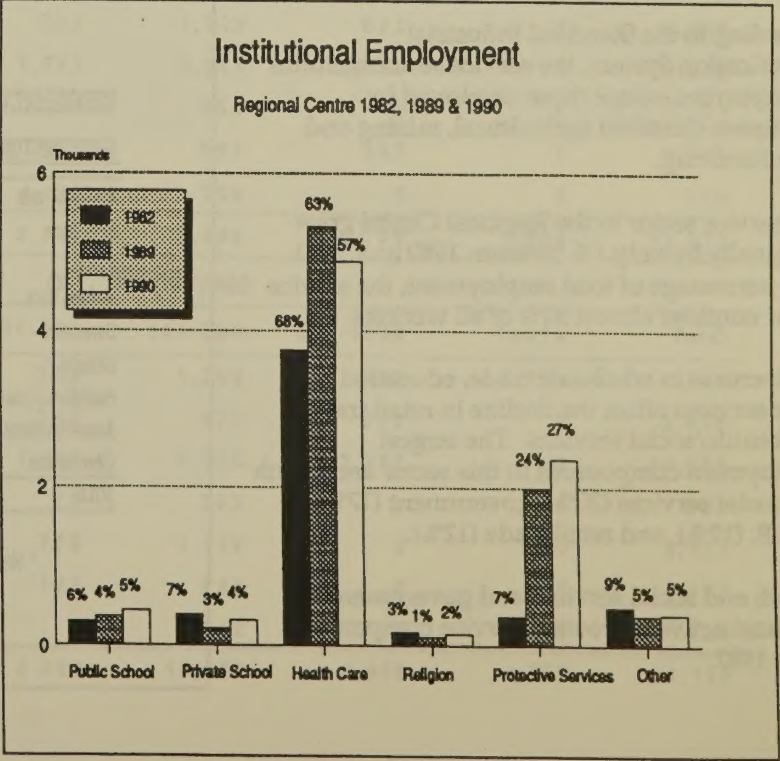
Institutional Employment

In previous years, institutions were third in overall total employment in the Regional Centre. In 1990, with the decline in the retail sector, institutions became the second largest activity employing 8,575 individuals. This sector includes educational, health, religious, protective/custodial establishments, as well as, libraries, and legal and legislative activities.

Health services is the largest institutional employer in the Regional Centre with 57% of all institutional employment. Both St. Joseph and General Civic hospitals employ more than 2,000 individuals. Employment in this sector is stable because hospital expansions are near completion.

Protective/custodial services employ 2,365 individuals and experienced the greatest gain of workers in the institutional sector. These service activities increased by 18% from 1989 to 1990.

Since 1989, the education employment sector has increased by 190 positions. This was partially the result of assigning as their place of work "floating part-time staff" to the two School Board offices.



Institutional Employment

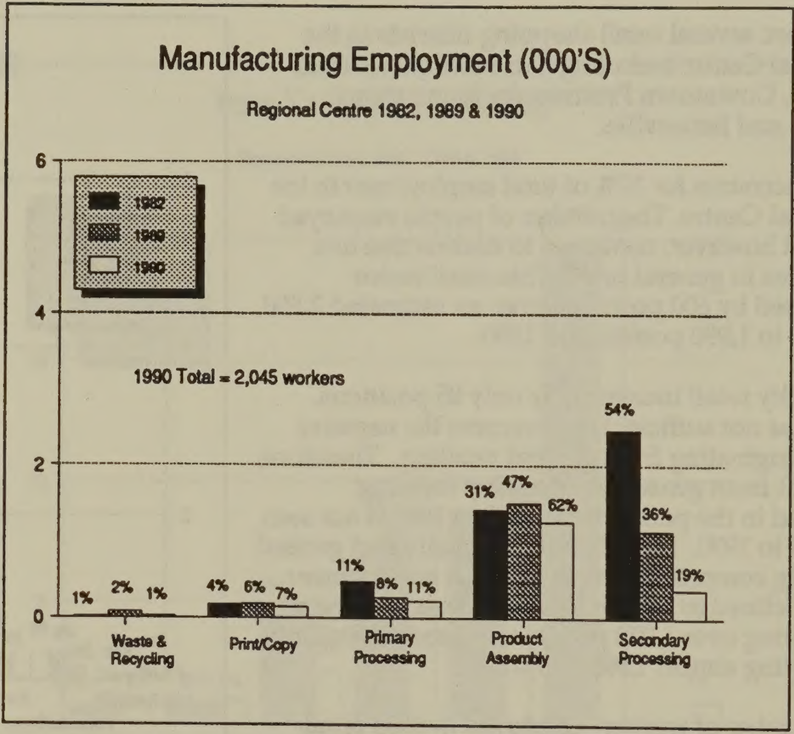
Regional Centre 1982, 1989 & 1990

Manufacturing Employment

An estimated 5% of all employees in the Regional Centre are associated with some form of manufacturing activity. The number of people employed in manufacturing continues to decline. Between 1982 and 1989 there was a 30% drop in total manufacturing employment. Since 1989 there has been an additional 37% decrease.

The greatest change occurred in the secondary processing sector, declining from 1,160 positions in 1989 to 380 positions in 1990, a -68% change. Primary and secondary processing includes heavy manufacturing while product assembly is considered to be light manufacturing.

Employment totals in other sectors of manufacturing are remaining relatively stable. Product assembly now employs 62% of the manufacturing labour force in the Regional Centre.



Service Employment

According to the Standard Industrial Classification System, the service sector includes all employees except those employed by businesses classified agricultural, mining and manufacturing.

The service sector in the Regional Centre grew marginally by only 1% between 1989 and 1990. As a percentage of total employment, the service sector employs almost 92% of all workers.

The increase in wholesale trade, education and other services offset the decline in retail trade, and health/social services. The largest employment components in this sector are: health and social services (20%), government (17%), F.I.R.E. (12%), and retail trade (12%).

Health and social services and government are the most actively growing service components since 1982.

SERVICE SECTOR EMPLOYMENT - REGIONAL CENTRE 1982, 1989 & 1990

SERVICE SECTOR	1982	%	1989	%	1990	%
Wholesale Trade	813	2%	413	1%	696	2%
Retail Trade	5,107	15%	5,790	15%	4,454	12%
F.I.R.E.*	3,558	11%	4,481	12%	4,508	12%
Business Trade	2,626	8%	3,947	10%	3,678	10%
Government	5,045	15%	6,322	17%	6,409	17%
Education	1,103	3%	1,162	3%	1,924	5%
Health/Social Services	5,913	18%	7,904	21%	7,736	20%
Accom/Food/Beverages	2,575	8%	2,569	7%	2,665	7%
Other Services	6,363	19%	5,118	14%	5,950	16%
TOTAL	33,103	100%	37,706	100%	38,020	100%

* Fire, Insurance, Real Estate

Employment by Activity and Business Size

Businesses are grouped according to the number of workers they employ. There are six categories: 1-20 employees per business site, 21-50, 51-100, 101-500, 501-1,000 and businesses employing more than 1,000 people.

The number of employees in the Regional Centre employed by companies with 500 or more employees decreased between 1989 and 1990 while the number working for companies with 50 or less increased. The drop in the number of people working in large companies is occurring mainly in the office and retail sector.

Small businesses defined as employing from 1-20 people have the largest number of employees. Businesses with 6 or less employees employ 28% of all workers in the Regional Centre. Employment growth in small businesses is occurring mainly in the retail and office sector.

1982 # of Employees

BUSINESS ACTIVITY	1-20	21-50	51-100	101-500	501-1000	1001+	Total
Institution	492	465	361	829	0	3,652	5,799
Manufacturing	479	266	725	1,874	1,250	0	4,594
Offices	4,968	2,663	2,875	6,371	1,244	15,460	19,667
Recreation	202	105	171	190	0	0	668
Retail	4,947	1,494	926	1,426	0	0	8,793
Transport	273	251	165	446	0	0	1,135
Total	11,361	5,244	5,223	11,136	2,494	5,198	40,656

1989 # of Employees

BUSINESS ACTIVITY	1-20	21-50	51-100	101-500	501-1000	1001+	Total
Institution	455	375	138	1,338	1,252	4,849	8,404
Manufacturing	423	252	592	1,332	624	0	3,223
Offices	5,076	3,404	1,778	5,334	4,350	0	19,942
Recreation	174	137	280	550	0	0	1,141
Retail	4,820	1,383	854	961	547	0	8,565
Transport	263	64	91	380	0	0	798
Total	11,211	5,615	3,733	9,895	6,773	4,846	42,073

1990 # of Employees

BUSINESS ACTIVITY	1-20	21-50	51-100	101-500	501-1000	1001+	Total
Institution	406	368	206	1,289	1,548	4,757	8,574
Manufacturing	408	237	349	376	676	0	2,046
Offices	5,114	3,571	1,468	5,720	3,782	0	19,655
Recreation	137	184	76	303	0	0	700
Retail	5,114	1,306	785	1,212	0	0	8,417
Transport	217	0	142	538	0	0	897
Other	13	68	0	742	0	0	823
Total	11,409	5,734	3,026	10,180	6,006	4,757	41,112

Demographic Profile

One trend apparent in both male and female employment profiles is the proportional stability in the various activity sectors.

Since a large percentage of the manufacturing workforce is derived from the male population, any change in this workforce will influence the male employment profile. The greatest fluctuation in the male employment profile occurred in manufacturing, a significant decline from 11% in 1982 to 6% in 1990.

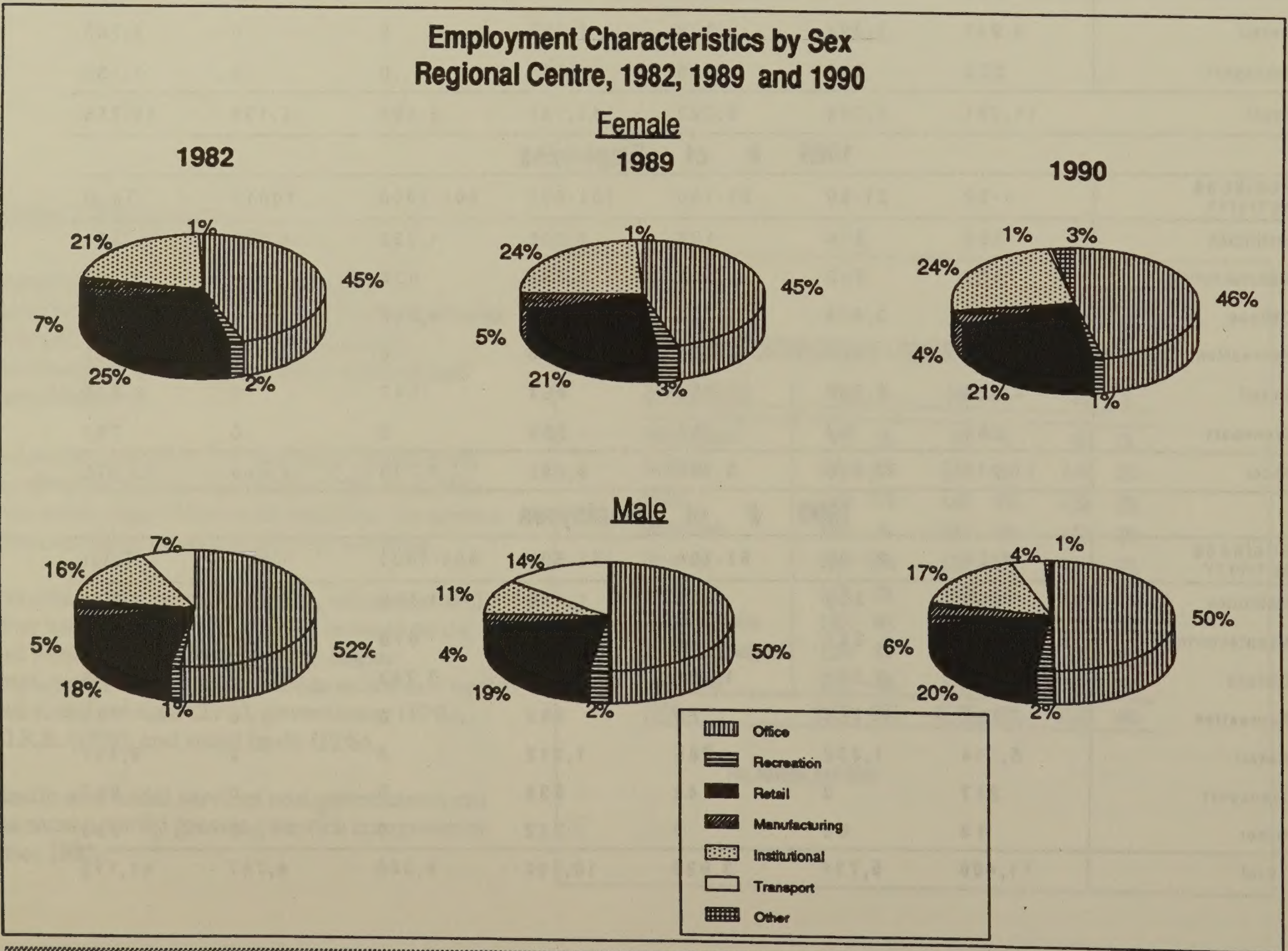
The proportion of males in institutional establishments increased by 3% since 1989. As for transport, retail, recreation and office, the male percentage composition paralleled that of 1989. Therefore, the decline in the Regional Centre in male employment from 17,635 to approximately 16,930 is largely the result of losses in manufacturing employment.

Male employees in the Regional Centre comprise 41% of total employment. 34% are full-time, 6% are part-time and 1% are seasonal. Male part-time employment accounts for 15% of all male workers and 29% of all part-time employment, a decrease from 30% in 1989.

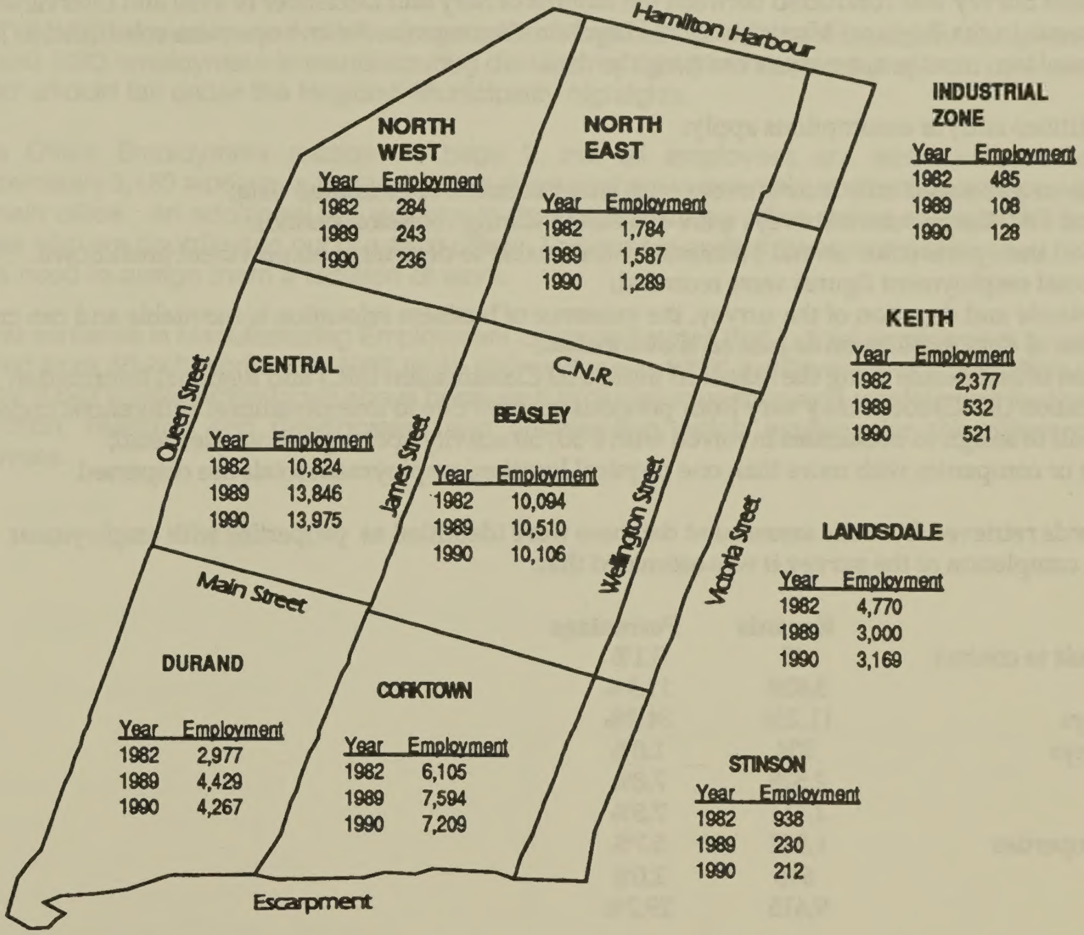
The distribution of female employment did not change as dramatically as those of their male counterparts. Female participation increased in the office sector by 2%. Manufacturing and institutions both dropped by a percentage point and recreation dropped 2% from 3% in 1989.

Females constitute 59% of the Regional Centre's total workforce. Approximately 42% of all females work on a full time basis, 15% work on a part-time basis and about 1% work on a seasonal basis. Part-time employment accounts for 26% of all female workers and 71% of all part-time employment, an increase from 70% in 1989.

There is a greater concentration of female employees in institutionalized positions. In the recreation, retail and transport activities, both male and female proportions are comparable. Office industry contains the largest percentage of both male and female employment with 20% and 27% respectively.



Employment Characteristics by Sex
Regional Centre, 1982, 1989 and 1990



Employment by Neighbourhood

The Regional Centre 1982, 1989 & 1990

Hamilton Harbour
NORTH WEST
Year Employment
1982 284
1989 243
1990 236
NORTH EAST
Year Employment
1982 1,784
1989 1,587
1990 1,289
INDUSTRIAL ZONE
Year Employment
1982 485
1989 108
1990 128
KEITH
Year Employment
1982 2,377
1989 532
1990 521
C.N.R.
CENTRAL
Queen Street
Year Employment
1982 10,824
1989 13,846
1990 13,975
James Street
BEASLEY
Year Employment
1982 10,094
1989 10,510
1990 10,106
Wellington Street
Victoria Street
LANDSDALE
Year Employment
1982 4,770
1989 3,000
1990 3,169
Main Street
DURAND
Year Employment
1982 2,977
1989 4,429
1990 4,267
CORKTOWN
Year Employment
1982 6,105
1989 7,594
1990 7,209
STINSON
Year Employment
1982 938
1989 230
1990 212
Escarpment

Employment by Neighbourhood

The Regional Centre consists of six neighbourhoods and parts of four adjacent neighbourhoods.

With the exception of Central and Landsdale neighbourhoods every neighbourhood in the Regional Centre experienced a decline in total employment between 1989 and 1990. The greatest declines occured in Beasley (400 people), Corktown (400 people), North East (300 people) and Durand (150 people).

Combined the neighbourhoods of Central, Beasley and Corktown have a total employment of over 30,000 people, representing 74% of the Regional Centre active workers. The high concentration of employment opportunities in these neighbourhoods reflects the location of retail stores, medical facilities and office buildings. Neighbourhoods in the north end of the Regional Centre are seeing a decline in employment because the majority of jobs are in manufacturing. Many manufacturing sites have closed in the 1980s in this area. Retail and office employment opportunities are increasing and these will be increasingly concentrated in the core of the Regional Centre.

APPENDIX A

The 1990 Employment Survey was conducted between the months of May and December of 1990 and interviewed all business establishments in the Regional Municipality of Hamilton-Wentworth. Follow-ups were concluded in January 1991 and an additional two months were spent verifying the data.

The following conditions and/or assumptions apply:

- tables and charts are generated only from surveys with either accurate or estimated data;
- both the 1982 and 1990 Employment Surveys were conducted during recession periods;
- not all totals equal their parts since several businesses were unable to determine employment breakdown. For these instances, only total employment figures were recorded;
- due to the magnitude and duration of the survey, the existence of business relocation is inevitable and can create problems in terms of data duplication or lack of, if overlooked;
- the categorization of businesses using the Standard Industrial Classification (SIC) and Regional Information System Classification (RISC) codes may vary from previous surveys due to interpretational differences; codes were especially difficult to assign to businesses involved with a 50/50 activity split, eg. wholesale/retail;
- for corporations or companies with more than one physical location, employment totals are dispersed accordingly;
- over 32,000 records retrieved from the assessment database were identified as properties with employment potential; at the completion of the survey it was estimated that:

Description	Records	Percentage
Refusals/Difficult to contact	45	0.1%
Farmlands	3,829	11.9%
Accurate Surveys	11,236	34.8%
Estimated Surveys	334	1.0%
Residential	2,528	7.8%
Vacant	2,411	7.5%
Developable properties	1,842	5.7%
Grasslands	646	2.0%
Not needed	9,415	29.2%
Total	32,286	100%

- the small percentage of refusals pertain to small businesses and thus do not have a significant impact on the overall findings of the survey;
- approximately 8% of those surveyed were once businesses functioning from residential units;
- farmlands were considered as self employed entities and thus excluded form the survey (an agricultural survey exists);
- self-employed individuals were difficult to track;
- the survey does not distinguish individuals with more than one position of employment; and
- roughly 8% of buildings with commercial/industrial potential were vacant.

This is one of a series of information bulletins produced by the Strategic Planning Division of the Planning and Development Department, Regional Municipality of Hamilton-Wentworth.

For further information please contact:

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119 King Street West, 14th Floor
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(416) 546-4186 Fax (416) 546-4364

GREATER HAMILTON EMPLOYMENT TRENDS BULLETIN, JULY 1991

ERRATA

In the "Highlights" section on the cover page under "Regional Centre" the first sentence that reads "between 1982 and 1990 employment in manufacturing declined by 9,640 worker, dropping from 33% in 1982 to 25% in 1990" should fall under the Regional Municipality highlights.

In the Office Employment section on page 2, not all employees are white collar office workers. Approximately 3,150 workers in manufacturing office sector are external construction workers who work out of a main office. An additional 925 workers in the manufacturing office sector are external transportation workers who are coordinated out of a main office. The error in coding these workers as office workers result from a need to assign them a location of work.

The first sentence in Manufacturing Employment on page 3 states that "...total employment in manufacturing dropped from 55,215 workers in 1982 to 48,150 workers in 1990" a difference of 7,065. This value is less than the 9,640 workers mentioned above because it excludes manufacturing employment involved in energy production, research and development and construction which explains for the difference of 2,575 employees.

c:\errata

Greater Hamilton
Population Trends & Projections
Demographics Report 93-1

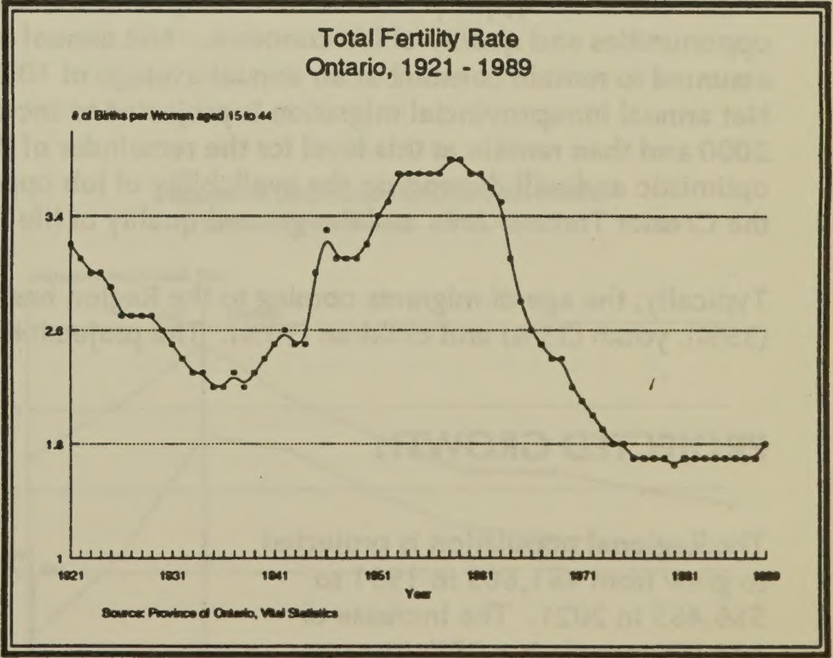
INTRODUCTION

This bulletin summarizes the report Hamilton-Wentworth Population, Household and Labour Force Projections 1991-2021. This report was adopted for planning purposes by Regional Council in December 1992. A thirty year time frame was chosen for the projections to be consistent with the Region's Vision 2020 documents. The report provides an overview of the factors that will influence growth variables.

COMPONENTS OF POPULATION CHANGE

Improving Life Expectancy

The mortality rate (deaths per thousand per year) dropped steadily between the 1920s and 1960s due to improvements in public health and sanitation. Since the 1960's the rate has been relatively steady at 7.2 deaths per thousand with the exception of a recent decrease in the mortality rate of the elderly. For the projections, male life expectancy at birth is assumed to rise from 74.1 years in 1990 to 78.3 by 2015, while life expectancy for females will rise from 79.5 years to 84.5 over the same period.


Total Fertility Rate
Ontario, 1921 - 1989

Source: Province of Ontario, Vital Statistics

Low Fertility Rates

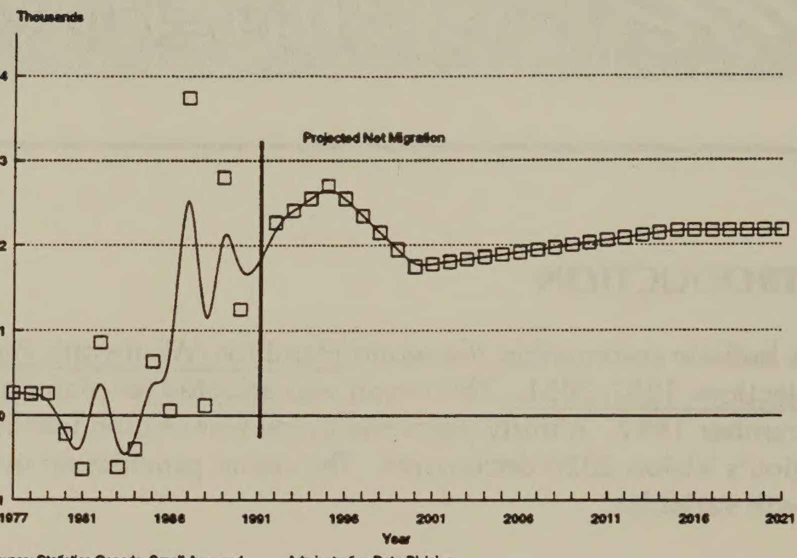
The fertility rate is the average number of children women have in their lifetime. Historically, the rate moved down during the 1920s and 1930s, moved up again through the 1940s and 1950s, and dropped sharply during the 1960s. Since the mid-1970s the rate has been fairly steady at 1.67 births per women. Recently the rate increased slightly to 1.76 as women in their early 30s are having more children. The projections assume that fertility rates will stay at 1.76 births per woman until 1996 and then drop back to 1.68 births per woman over the long term.

High Short-Term Migration

Future migration is the most difficult factor to predict. The number of people coming into the Region from outside the country is directly related to federal immigration policy which can change quickly.

Based on the past share of immigrants who settle in the Region, short-term federal immigration policies, and long term averages, net annual international migration is assumed to remain high at 3,150 people until 1995, decline to average levels of about 1,650 until 2000, and begin a slow increase to 2,070 by 2015 and then stay at that level.

Net Migration
Hamilton-Wentworth, 1977 - 2021



Source: Statistics Canada, Small Area and Administrative Data Division.

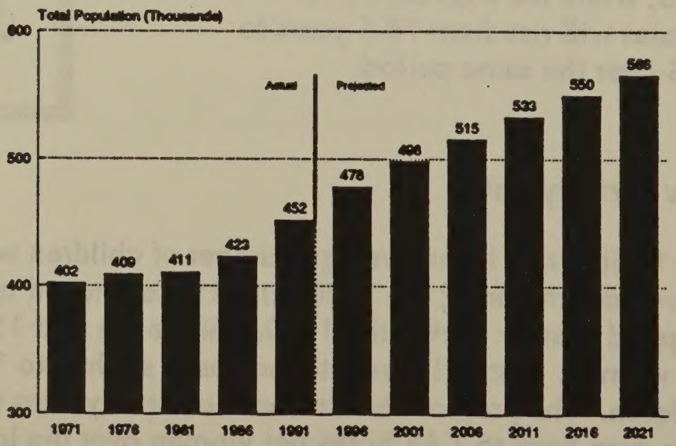
Within the country, people move between provinces due to changing economic conditions, job opportunities and quality of life concerns. Net annual interprovincial migration to the Region is assumed to remain constant at an annual average of 100 migrants through the entire projection period. Net annual intraprovincial migration is projected to increase from minus 800 people to 0 by the year 2000 and then remain at this level for the remainder of the projection period. These assumptions are optimistic and will depend on the availability of job opportunities relative to other provinces, growth in the Greater Toronto Area and the general quality of life in our communities.

Typically, the age of migrants coming to the Region has been fairly evenly split among young adults (35%), youth (35%) and children (30%). The projections assume that these proportions will persist.

PROJECTED GROWTH

The Regional population is projected to grow from 451,665 in 1991 to 566,465 in 2021. The increase of 114,800 people is a 25% increase over 1991. Total migration will account for over half the increase in population. The population will grow fastest in the 1990's due to the assumed high levels of international migration and high rate of births. An average of 4,650 more people per year is anticipated during the 1990's.

Population Growth
Hamilton-Wentworth, 1971-2021



Source: Statistics Canada, 1971-1991 & Hamilton-Wentworth Planning and Development Department.

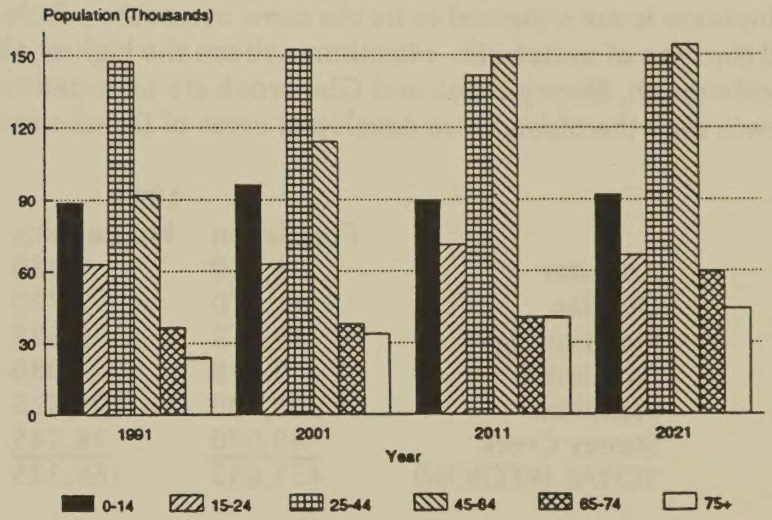
AGE DISTRIBUTION

The most notable feature of the projections is the aging of the population. In 1991 half the population was under 33 years old, by 2021 this median age is expected to be 41. The large group of people born between 1940 and 1960, the "baby boom", will move into middle age between 1991 and 2011.

The 65-74 age group begins to grow substantially after 2011 when the baby boom generation starts entering retirement age.

The number of 15-24 year olds decreases between 1991 and 1996 from 63,000 to 61,095, and then increases to 71,370 by 2016 as the children of the baby boom generation become teen-agers. Although the number of children (0-14) remains around 90,000 their proportion of total population is reduced from 20% to 16%.

Population Projections
by Age Group, Selected Years 1991-2021

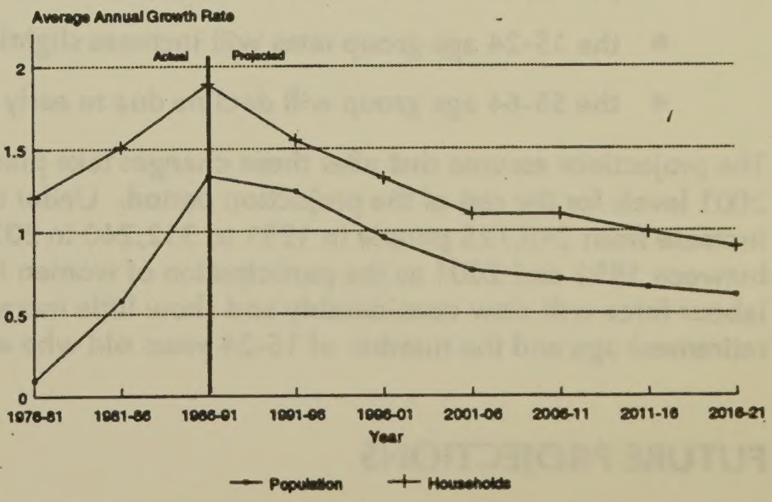


Source: Statistics Canada, 1991 Census & Hamilton-Wentworth Planning and Development Department.

HOUSEHOLDS

Between 1986 and 1991, population growth in the Region was 6.5% while household numbers went up by 9%. Growth in the number of households, and therefore the need for housing unit construction, is expected to outpace population growth. 37% more households are expected to be formed in the Region by 2021, while the population grows by 25%. 63,110 new households will boost totals from 169,120 in 1991 to 232,230 in 2021. Growth will be highest in the years 1991-1996 (2,380 annually). Changes in the average number of people living together in a household are also expected. The average household size has been decreasing across the province. Divorce rates and large increases in single parent families are part of the reason for decreasing household size. Average household size in the Region decreased from 3.01 in 1976 to 2.66 in 1991. Average household size is projected to decrease from 2.66 to 2.44 persons per households between 1991 and 2021.

Population and Household Growth Rates
Hamilton-Wentworth, 1976 - 2021



Source: Census of Canada, 1976-1986 & Hamilton-Wentworth Planning and Development Department.

Planning for Geographic Differences in Growth

Each of the area municipalities will experience growth in both population and households but the rate of increase is not expected to be the same across the whole Region due to the available supply of land and the type of units built. Hamilton will see the highest absolute growth in households but Ancaster, Flamborough, Stoney Creek and Glanbrook are expected to experience much higher proportional growth than the older, more developed areas of Dundas and Hamilton.

	1991		2021	
	Population	Households	Population	Households
Ancaster	21,990	6,880	42,995	15,190
Dundas	21,870	7,770	25,515	10,170
Flamborough	29,615	9,625	52,925	19,465
Glanbrook	9,725	3,080	15,975	6,320
Hamilton	318,500	125,525	342,100	149,025
Stoney Creek	49,970	16,245	86,995	32,055
TOTAL (REGION)	451,665	169,125	566,465	232,225

LABOUR FORCE

Over the last thirty years the labour force has grown substantially. This is not only a result of population increase, but also due to significant increases in the percentage of women interested in paid work. Between 1966 and 1991 female participation rates in Ontario jumped from 35% to 60% while male participation rates declined from 75% to 71%. Regional participation rates closely follow provincial trends. It is expected that participation rates for different age/sex groups will continue to change between 1991 and 2001:

- the 25-64 female age group will increase their participation to equal male participation rates except for women in their child-bearing years;
- the 15-24 age group rates will increase slightly; and
- the 55-64 age group will decline due to early retirement.

The projections assume that after these changes take place, participation rates will remain constant at 2001 levels for the rest of the projection period. Under these assumptions the labour force will increase from 240,125 people in 1991 to 312,240 in 2021. Growth in the labour force will be highest between 1991 and 2001 as the participation of women increases from 46% to 50%. Growth in the labour force will slow considerably and show little increase after 2011 as many workers reach retirement age and the number of 15-24 years old who are the main source of new workers declines.

FUTURE PROJECTIONS

These projections reflect a number of assumptions which may or may not be borne out over time. The Planning and Development Department will monitor actual growth and, following the publication of census statistics every five years, review assumptions and prepare up-dated projections.

THE REPORT "Hamilton-Wentworth Population, Household and Labour Force Projections, 1991-2021" is available from the
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